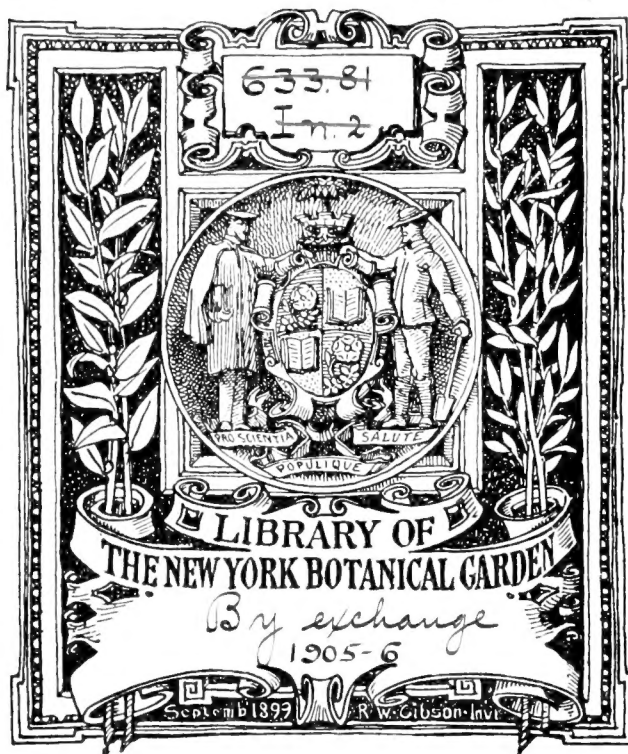


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INDIA RUBBER WORLD

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Edited by HENRY C. PEARSON—Offices, No. 150 Nassau Street, NEW YORK.

Vol. XXXIII. No. 1.

OCTOBER 1, 1905.

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HENRY C. PEARSON,
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WHERE RUBBER FIGURES IN THE NEWS.

THE eager interest with which the planting element in the Far East seizes upon whatever may pertain to rubber is illustrated on another page of this issue, on which we reproduce a report cabled to a leading Ceylon newspaper, summarizing from THE INDIA RUBBER WORLD an account of a new source of Amazon rubber. The Ceylon paper's correspondent felt that the mails were too slow to convey the facts to his home office, and through his use of the cable the editor at Colombo was able, two weeks before the arrival of THE INDIA RUBBER WORLD, to obtain and print some expert information from the local government botanical service and to discuss the whole subject editorially.

It is plain that journalists so experienced as those in charge of *The Times of Ceylon* would hardly resort to such use of the ocean telegraph if not convinced of the acute interest of their reading public in rubber and its production. The planters may have to wait for six or seven years for the first yield of rubber from a given planting, but are unwilling to wait seven days for any facts which may have an important bearing upon the future of the rubber culture.

But the use of the cable to carry rubber news to the Far East is not new; the planters out there—and a lot of others as well—want to know the prices paid at each London rubber auction before the next day, and their evening newspapers supply the information. It has been usual to speak of the people of the Amazon regions as living by rubber, but the European residents of Ceylon and the Straits will soon be in the same position if half their plans and projects as reflected in the daily journals out there should materialize. Already rubber seems to have entered into the life of the people there in as many ways as cotton in the southern United States or coal in Pennsylvania. It occupies the attention of the local governments; it is the subject of scientific investigation; it figures in the transactions of what serve as the local stock exchanges; and what is more, real rubber forms part of the exports and is the basis of income of a lot of people.

His Excellency the governor of the Straits Settlements, in opening the recent big agricultural fair at Penang, at which the interest in plantation rubber exhibits exceeded that in any other feature of the show, spoke at length of the rubber prospects, warning planters not to let the company promoters profit too greatly at their expense. Naturally the formation of large planting companies is being undertaken on all sides, and their shares are quoted in London financial circles along with American railway securities and South African mining stocks, but it would be a mistake to assume that the interest in rubber planting in the British colonies is due, even in large part, to company promoters.

What the Colombo and Singapore and Kuala Lumpur papers put before their readers morning and evening is data contributed by practical planters on the kind of soil best suited for rubber, methods of extracting the latex and coagulating it, and other such like details, all with a view to

the best development of the new interest through a free exchange of views and experiences. Real profits already realized are reported; not estimates of future possibilities. All this is as it should be, and it is the best earnest of a firm foundation for rubber culture as a lasting and profitable business.

There is no other part of the world where rubber figures so largely in the real news of the day—in the printed news, we mean—as in the colonies above named, and doubtless the people there would be surprised to know that there are some folks elsewhere who suppose the result of all rubber planting to date to be summed up in one word—failure.

A COMING GREAT USE OF RUBBER HOSE.

OF the newer applications of India-rubber, one which seems especially practical and destined to come into wide use is in the form of hose for the compressed-air and vacuum systems of house cleaning, in regard to which some details are given elsewhere in this paper. Medical science long has taught the importance of cleanliness as a means to health, but it has remained for twentieth century inventors to show the world what a really clean house is like. And self respecting and intelligent people, once having their eyes opened, will not be content with the old standards of cleanliness.

It is not too much to give the new house cleaning methods a place with the most notable discoveries in the history of sanitation. These words, by the way, are not written in the interest of any one of the several somewhat different house cleaning systems now offered for public support, for THE INDIA RUBBER WORLD is not in a position to institute any comparison among them, but we are willing to be quoted freely in advocacy of the general principles involved.

The reason for introducing the subject here is to note the importance of the new demand for raw rubber which undoubtedly will follow the more general public appreciation of the new era of cleanliness which the pneumatic system is ushering in. Apart from the sanitary aspect—which appeals to all good people—this new use of flexible hose cannot fail to be a matter of great importance to the rubber industry and likewise to the producers of raw rubber.

Mr. Blanchard's contribution to this subject, by the way, relates mainly to the cleaning of private and public buildings—to premises occupied by people as residences or for office and other similar purposes. But an English inventor has opened a new line of development which widens the field enormously. His suggestion relates to ridding coal mines of the dust which is now a fruitful cause of explosions, to say nothing of the injurious effect upon the health of the miners. If this pneumatic cleaning proves practical in collieries, there is scarcely a form of industry to which the same principle may not be applied ultimately, with the result of making the work more healthful in general, even if it does not always, as in the case of coal mining, remove a distinct menace to life.

We shall expect to see a great increase in the use of rubber hose, due to the new era of cleanliness.

THE CONTINUED HIGH PRICE OF RUBBER is convincing evidence of the active demand for rubber goods.

IF THE HORSE SHOULD BE ANNIHILATED by the automobile, may we expect to see the race tracks given over to the rubber tired red devils and blue devils and yellow devils, with crowds betting on contests of speed?

ALASKA APPEARS DESTINED to become of great importance to American commerce. It is only a straw which points the direction of the wind, but it may be worth mentioning that the shipment of American rubber footwear to that territory during the last fiscal year amounted in value to \$166,644, or more than 23 per cent. on the \$7,200,000 which the United States paid to Russia for Alaska.

THE RUBBER KINGS OF THE AMAZON doubtless feel little respect for the trivial shipments of real Pará rubber from the other side of the globe. One steamer from the Amazon carries more rubber than has been shipped from all the plantations in the East within a year. But the output over there is growing in extent rapidly, while in Brazil it is at a standstill. And the difference between the production of the two centers will not long remain so marked as now.

THE UNPRECEDENTED CROPS THIS YEAR emphasize the great part which agriculture plays in the prosperity of the United States, and every increase in the power of our people to spend money helps trade in all the rest of the world. So far as the rubber industry is concerned, the home demand for its products is likely to prevent any great increase for awhile in the export of American rubber goods. In fact, while the rubber mills here are crowded with work, the imports of rubber goods into the United States are larger now than ever before.

THE WEALTH OF RUBBER IN THE ACRE DISTRICT probably has never been exaggerated, but the establishment of peace there—as between Brazil and Bolivia—has not been followed by the hoped for settlement of the territory and the opening of new rubber camps. Even Brazilians will be found to complain, as will be seen on another page of this paper, of the governmental policy which is blind to every consideration but the personal advantage of the office holders. What is needed for the development of the Acre and its rubber resources is a more liberal policy toward the foreigner with capital to invest there, as well as toward the native Brazilian, whether capitalist or laborer.

THE UBERO PLANTING COMPANIES.

THE receivers for the Ubero Plantation Co. of Boston appeared before the United States circuit court in Boston on September 20, with a petition to be allowed to sell the assets in their charge and divide the proceeds among the investors. Counsel representing a reorganization committee desired to file a petition for the discharge of the receivers and for the property of the company to be turned over to a new corporation to be formed under the reorganization plans. [See THE INDIA RUBBER WORLD, September 1, 1905—page 402]. It was stated that a substantial amount had been subscribed by the investors for the reorganization, but this plan was opposed by counsel who appeared for another group of investors. The court deferred action to give the receivers an opportunity to communicate with all the shareholders to ascertain their wishes in regard to a reorganization.

THE "GUAYULE" RUBBER PLANT—III.

THE *Mexican Herald* said, in its issue of September 12, in regard to a company of which the headquarters is in New York:

"With nearly a million feet of lumber already ordered, besides tons upon tons of rubber extracting machinery, the Continental Rubber Co., of which E. B. Aldrich is president, is preparing to build at Torreon a rubber factory which shall be the largest ever constructed in Mexico. Guayule will be the product from which the rubber will be taken and news received here is to the effect that Mr. Aldrich, who is the son of Senator Aldrich of Rhode Island, is backed by his company with more than enough money to build the plant as well as a number of smaller frame houses which are destined for the use of the workmen at the factory.

"One hundred acres is embraced in the site for the plant, which will be located near the junctions of the Mexican Central, the International, and the Coahuila and Pacific railways. This land lies just north of the Torreon smelter and is admirably adapted to the purpose for which it was purchased. Captain F. H. Hunicke is credited with having been the father of the enterprise, inasmuch as he demonstrated that rubber is extractible from the Guayule plant with the right kind of machinery. This is the class of machinery which will be used by the Continental Rubber Co. and Captain Hunicke has been retained to install the machinery and get it into smooth running order. The supply of Guayule will be drawn from the territory between Monterey and Torreon where the shrub abounds in large quantities."

* * *

THE Continental Rubber Co. is incorporated under the laws of New Jersey with \$1,000,000 capital, to exploit, in connection with Guayule rubber, certain American and foreign patents granted to William A. Lawrence. The president is Edward B. Aldrich and the vice president Mr. Lawrence. They fill the same offices in Continental Mexican Rubber Co., a subsidiary company organized for carrying on the business in Mexico. The New York headquarters is at No. 32 Broadway. It is understood that this is one of the two largest companies now handling Guayule to an important extent commercially. A list of the United States patents granted to William A. Lawrence and assigned to the Continental Rubber Co. follows:

No. 741,256. October 13, 1903. Art of extracting gum.

No. 741,257. October 13, 1903. Apparatus for extracting gum.

No. 741,258. October 13, 1903. Art of extracting rubber without solvents.

No. 741,259. October 13, 1903. Composition of matter.

No. 741,260. October 13, 1903. Process of refining crude rubber.

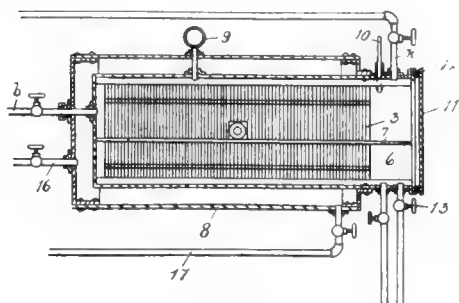
No. 787,518. April 18, 1905. Cleaning rubber.

Patent No. 741,256 is for the continuous process in the treatment of the plant with the solvent for the rubber like gum contained in it. In the first place, the shrub is run through corrugated rollers to get it in shape for the solvent, which is naphtha. Other hydrocarbon solvents of rubber, together with ether, chloroform, etc., may be used, but the inventor gives personal preference to low grade naphtha of about 74° Baumé. The inventor evaporates and recovers the naphtha after the gum is in solution until evaporation becomes somewhat difficult. At this point he introduces a hot alkaline solution at a temperature very near its boiling point. This is to dissolve the resin and to separate the gum from the residue of the solvent. The result is that the gum rises to the surface in a mass about the consistency of cream. The alkali is then washed out with cold water and the gum hardens into a doughy mass.

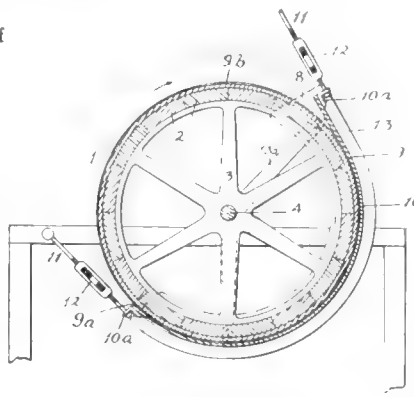
The apparatus designed to carry out this process consists of a basket with steel ribs, lined with wire cloth, having a fine mesh. This basket, having been filled with crushed shrubs, is put into a jacketed extracting drum. The door is closed and the naphtha at once pumped in. It is left there for four hours, being heated to 110° to 114° F. The solution is then drawn off into the evaporator which takes out most of the naphtha. The hot residue still in solution is then passed into a tank containing a hot alkaline solution. This is either an open or a closed steam jacketed tank and contains for example 12 per cent. solution of sodium hydrate. The liquid in the tank is kept at a boiling point with occasional stirring for about two hours; the gum is then drawn or skimmed off and subjected to repeated washing of first hot and then cold water in another tank.

Patent No. 741,257 calls for a drum which rotates continuously in one direction, with a rubbing action upon the material to be treated, which is fed between the drum and the closely encircling apron or belt.

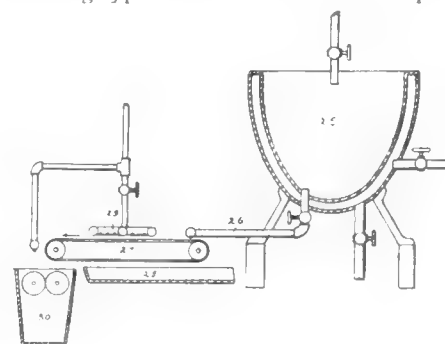
Patent No. 741,258 covers the art of extracting rubber without the use of solvents. In this the shrubs are first crushed very finely, the cellular tissue being softened by water, either hot or cold. The rubbing apparatus is then applied which thoroughly rubs the material treated forming the gum into masses, which may be washed in the usual way. The apparatus described consists of a boiling tank provided with steam heated coil. From this the mixture flows out and is received upon an endless belted strainer and conveyer through which the water flows readily. The separator is of the rubbing type described in the former pat-



No. 741,256.



No. 741,257.



No. 741,258.

W. A. LAWRENCE'S PROCESSES FOR GUAYULE.

ent. The final process is the dissolving of the resin from the extracted gum by means of an alkaline solution or wood alcohol.

Patent No. 741,260 is for a process of refining such crude rubber. This apparatus consists of a macerator jacketed for steam or hot water connected with an evaporator and also a refrigerator. This is fitted with corrugated sleeved rollers for stirring the gum under treatment, and is constructed for a charge of about 400 pounds of crude gum. Into this wood alcohol is poured. The agitator is then put in motion, steam admitted to the jacket, and the macerator brought to a temperature of 122° F. The vapor from this is conducted to the refrigerator for recovery. In 20 minutes the saturated alcohol is also drawn off from the evaporator into the refrigerator and recovered, the rubber almost pure being left in the macerator.

The inventor in speaking of the extraction of resins from gum taken from the Guayule says that there is 63 per cent. of rubber in the gum that he extracts, and 22 per cent. of resinous matter, and that this treatment with alcohol or a mixture of alcohol and naphtha is designed to extract this resin, the resultant mass being a pure rubber like gum.

* * *

COAHUILA Mining and Smelting Co., Limited, have engaged in the production of rubber from Guayule. They have a smelter, at Viesca, state of Coahuila, Mexico, which has been shut down under contract with the American Smelting and Refining Co., and in this they have installed a plant with a capacity for producing daily one ton of Guayule rubber, and there is sufficient power plant to increase this capacity to 4 tons of rubber per day, which production they hope to reach by next May. The company have obtained from the state of Coahuila a concession which exempts them from state taxes and carries other privileges. They have contracted for a supply of Guayule shrub for four years and disposed of their product at the present capacity for two years, through German and American houses. The rubber factory is only one department of the company's business, which is engaged in mining in Coahuila and three other Mexican states. The officers of the company are H. T. Ambrose (New York), president of the American Book Co., president; F. J. Llewellyn of the American Bridge Co., vice president; Walter E. Parker, general manager; and Albert S. Valdespino, superintendent in charge of the rubber department.

* * *

INTERNATIONAL Guayule Rubber Co., September 7, 1905, under New York laws; capital \$50,000. Incorporators: Thomas M. Richter, Mt. Carmel, Pennsylvania; John A. Rielly, Shenandoah, Pa., B. St. John Hoyt, No. 170 West Seventy-fifth street, New York. It is understood that the company control some Mexican patents for the extraction of rubber from the Guayule plant.

NEW TRADE PUBLICATIONS.

THE PEERLESS MANUFACTURING CO. (New York) issue their Catalogue No. 70, devoted to Mechanical Rubber Goods. This catalogue is even more complete and more attractively got up than any of its predecessors, some of which have been commented upon very favorably in these pages. A Peerless catalogue may be depended upon to contain something new in each edition, and the one before us does not prove an exception to the rule. [5½" × 8¾". 137 pages.]

THE GUTTA-PERCHA AND RUBBER MANUFACTURING CO. OF TORONTO, LIMITED, issue a catalogue of their "Maltese Cross" Interlocking Rubber Tiling, illustrating a wide variety of applications of this desirable floor covering, including

views of a number of interior views of Queen's Hotel, Toronto, lately equipped with it. These are followed by a number of designs in color, indicating that a variety in color schemes is now available in rubber which no manufacturer would have thought possible at a period in the industry within the memory of most important houses in the trade. [6" × 9". 40 pages.]

THE HARTFORD RUBBER WORKS CO. (Hartford, Connecticut) issue a new brochure on the distinctive features of the "Hartford Perfected" Dunlop automobile tire. It is adequately illustrated and prices are given. There is also matter of interest on the care of tires. [7½" × 5". 24 pages.]

G. & J. TIRE CO. (Indianapolis, Indiana) issue, under the title "Reliable Tires," a number of letters of commendation, by widely known automobilists from many parts of the country. [7¼" × 10". 17 leaves.]

THE PURE GUM SPECIALTY CO. (Barberton, Ohio), in their Catalogue C, illustrate and give prices of syringes, water bottles, finger cots, gloves, ice bags, air beds and cushions, nipples, bath brushes, face masks, and other like articles. It is an interesting and handsome catalogue. [9" × 6". 32 pages.]

KOHMESCHER & Co. (Cincinnati, Ohio) issue the ninth edition of their catalogue of Fine Rubber Goods for the Druggists', Surgical, and Stationery Trade. As we have noted in connection with former editions of this very complete catalogue, it is always up to date, enumerating a number of articles not listed in it hitherto. The catalogue is excellently illustrated, rendering it a convenient guide to buyers who may be at a distance from any rubber store. [5" × 7¾". 160 pages.]

J. LONSTROFF, proprietor of the Fabrique Genevoise de Caoutchouc (Geneva, Switzerland), issues a series of trade lists, headed with his *Prix Courant* No. 1, devoted to hygienic, surgical, and toilet articles, of about which 900 are noted, most of them being illustrated. The same factory produces mechanical goods, footwear, sporting goods, toys, balloons, dress shields, tobacco pouches, and waterproof clothing, which are described in separate lists. [6½" × 9½". 86 pages.]

ALSO RECEIVED.

HODGMAN Rubber Co., New York.—[Duplex Folding Bath Tubs.] 4 pages.

James Barker, Iron Foundry and Machine Works, Philadelphia.—Barker Massage Machine. 20 pages.

The Parker Pen Co., Janesville, Wisconsin.—The George S. Parker Fountain Pen. 16 pages.

Crandall Packing Co., Palmyra, New York.—Catalogue and Price List. Steam, Ammonia, and Hydraulic Packings [and Belting, Hose, and other Rubber Goods]. 72 pages.

The Trent Tile Co., Trenton, New Jersey.—Rublain Flooring. 4 pages.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values of exports of manufactures of India-rubber and Gutta-percha, for the month of July, 1905, and for the first seven months of five calendar years:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
July, 1905.....	\$102,839	\$242,263	\$ 235,607	\$ 580,709
January-June.....	534,263	346,046	1,435,469	2,315,778
Total.....	\$637,102	\$588,309	\$1,671,076	\$2,896,487
Total, 1904..	504,666	472,128	1,382,582	2,359,376
Total, 1903....	474,684	341,792	1,459,954	2,276,430
Total, 1902....	386,105	355,092	1,116,558	1,857,755
Total, 1901....	351,649	291,356	1,073,822	1,716,827

A GLIMPSE OF RUBBER PLANTING IN COSTA RICA.

By the Editor of "The India Rubber World."

OUR first sight of Costa Rica came at 5 o'clock one morning, when we sighted the low lying city of Port Limon with its background of far away mountains. It was nearly 8 o'clock before we made fast to the pier, and even then it took us some time to have our luggage weighed and the customs paid. The time came finally, however, when we were free to walk down the long pier, through the gates, and explore the town.

Not only is Costa Rica justly called the Banana republic, but Port Limon is a banana town and we fully appreciated it when we saw the train loads of green fruit run out upon the piers, the huge bunches dumped upon rubber conveying belts and carried smoothly into the holds of the waiting steamships. The town, moreover, had an alert air about it that was in no way suggestive of typical Spanish America. It had no very pretentious buildings, with the exception, perhaps, of the office building of the United Fruit Co., but it boasted two hotels and the "Gem saloon," where all the men congregated, and beside that, almost everybody spoke English.

At 10 o'clock in the morning the thermometer stood at 90°, the air reeking with moisture, the sky covered with evil looking clouds. Nevertheless, the streets were thronged with a most vivacious mixture of porters, fruit sellers, soldiers, Jamaica negroes, Chinese, and native Costa Ricans. At 10.30 we boarded the train that was to take us to the interior and rode for 20 miles through a flat, swampy country where even the native Costa Rican cannot live, but where the Jamaica negro flourishes and waxes fat. At intervals along the railway were little huddles of huts built on stilts to keep them out of the black mud, roofed with corrugated iron or palms, and full to overflowing with the ebony subjects of his Majesty King Edward VII.

The heads of the families that called these shanties homes were very largely laborers on the banana plantations of the United Fruit Co., and when it is remembered that out of Port Limon will come this year some 7,000,000 bunches, it is easy to appreciate how large a force of men is needed to cultivate, cut, and ship this great crop. It is claimed that there are 11,000 Jamaica negroes on the plantations near Port Limon. For them the United Fruit Co. provides hospitals, keeping out

2 per cent. of their wages for medical attendance; and yet, in spite of black fever, yellow fever mosquitoes, and snakes, there is not a great amount of sickness among these laborers. And if one can judge by the appearance of the people, their home life in their little tin roofed shacks, crowded with pickaninnies, mangy dogs, monkeys, and parrots, shows a greater measure of content than is to be found in the majority of settlements more favorably located, and populated by those who have a thousand fold more to make existence tolerable.

As the train emerged from the palmetto swamps it ran through some magnificent banana plantations, the trees growing rankly from rich alluvial soil, and the bunches of fruit being often five or six feet long and weighing over 100 pounds each. The railroad, by the way, over which we were traveling, was built through the enterprise of that well known American, Mr. Miner C. Keith, who was also the creator of the great United Fruit Co.

After a time the road began to ascend and the scenery became more and more beautiful. Nearly the whole of the distance up to the city of San José the way lay along the side of a range of mountains and ran parallel with a rapidly rushing river, whose white water could be seen oftentimes for miles. As we got up into the higher country, the home life of the Costa Rican began to be apparent.

Everywhere through the broad valleys and up the mountain sides could be seen cleared farms, in many cases fine plantation houses and great coffee estates. The native Costa Rican is perhaps one of the most enterprising and independent of all the Latin Americans. Nearly every man owns a patch of land and cultivates it. The better class speak English and are very friendly to Americans, welcoming them to their country with a manly, prideful air that is extremely taking.

In the meantime, the Ferrocarril Costa Rica was slowly but surely getting us up toward San José. The English locomotive was having a tough time of it with the steep grades, and it seemed every now and then as if the pull would be too much and the heavy train slip back down into the valley. The slow progress, however, gave us every opportunity to examine the track with its iron sleepers, to see where various great land-



WHARF AT PORT LIMON, COSTA RICA.



UNITED FRUIT CO.'S COMMISSARY, PORT LIMON.



LOADING BANANAS ON A TRAIN.



TEN MILES OUT OF PORT LIMON.

slides had time after time wiped out the railroad and even dammed the swift flowing river, and to enjoy the wonderful semi tropical luxuriance of the giant trees festooned with vines and studded with epiphytes, to look down into deep gorges, up the sides of steep mountains, and across broad and fertile valleys, so photographing the scenery in one's mind that the snail's pace of the train was not only not objected to, but was most welcome. At intervals all the way up were to be seen *Castilloa* trees, many of which had been tapped in the brutal native fashion which amounts almost to girdling. At about 1500 feet altitude the rubber trees began to appear less frequently, and when the aneroid read 2000 feet, they disappeared entirely.

After reaching an elevation of some 5000 feet, we descended a thousand feet and finally reached the city of San José. The city is situated in the midst of a broad and fertile valley and is semi tropical rather than tropical, being surrounded by huge fields of sugar cane, corn, and growing most of the well known tropical fruits. San José itself is a surprise. With its well-kept streets, its trolley lines, electric lights, fine stores, and alert looking inhabitants, it is more like a modern American city than anything else. Although it contains but 24 000 inhabitants, it gives one the impression of a city of double that size, partly, perhaps, because the buildings are nearly all two stories only, as the frequent earthquakes do not invite the erection of skyscrapers. The single unpleasant feature of the

city is the open sewage, which is said to invite typhoid. Aside from that there is practically no disease, the climate is equable and the people, except on rare occasions when they take too much *aguardiente*, give the military police little trouble.

Almost from the first of our landing in this country we heard of the magnificent National Theater that San José possessed. The Latin American description of it made it more elegant and on a larger scale than anything in New York or London. For this reason, the first view of it was a bit of a disappointment. It certainly was beautiful architecturally and its decorations were most elaborate, but it is a question if it would hold more than a thousand with comfort. Most of the decorative work was done by artists who were brought from Italy, and some \$600,000 gold was spent upon the building. In the foyer on the beautiful inlaid floor were some of the most gorgeous rubber mats that I have ever seen, in red, white, and blue, with green leaves, yellow trumpets, golden harps, etc., and they bore the imprint of the well known firm of Pirelli & Co., Milan, Italy.

The city has large wholesale houses, chiefly in the hands of the Germans, and substantial banks, the country being on a gold basis, with the *colon* as a unit of value, worth 46 cents in American money. The population of the country is 340,000, none of whom are Indians. Spanish is the language in general use, but almost everybody understands English, and it is a delight to mingle with the people, for they have none of the



CHIRRIPO, SHOWING MINOR C. KEITH'S PLACE.



RIVER SCENE NEAR PORT LIMON.

sullen air so prevalent in certain parts of Spanish America.

During our stay in the country we put up at the Hotel Imperial, where we had comfortable rooms and enjoyed an excellent table. As a matter of course, we asked many questions about rubber culture, but from the natives or the resident Americans we developed little information. One of the latter explained it by saying that in that country at the present time bananas were the whole game, because they gave quicker results and had behind them the support of the United Fruit Co., who were perfectly willing that the planters should make a good thing out of their fruit. One native explained the lack of interest in rubber planting by telling us solemnly that rubber seeds planted by man would not develop into productive trees. He said that nature's way of distributing the seeds was for the birds to eat them in order to get the sweet pulp with which they are surrounded, and mingled with their droppings, the seed grew into a tree that was a rubber producer. If it did not go through this preparatory process, it amounted to nothing.

Although we had not come to Costa Rica particularly to look up rubber, there was one plantation that I was anxious to examine, which was said to contain over 100,000 *Castilloas*, most of which had been interplanted with bananas. These trees were said to be three or four years old, and planted by one who had had much experience in tropical forestry throughout Central America. The Importer was so much pleased with the city of San José and so relieved to get out of the heat of the lowlands that he decided to stay there, while the Manufacturer and the writer took another plunge into the hot country. We, therefore, left him for a further exploration of the city, and getting up at daybreak, boarded the train and retraced our steps, slid slowly downward for hours, until we reached the lower levels. The journey downward was even slower than the climb, as the engineer must be on the lookout constantly for



MOUNTAIN ROAD NEAR SAN JOSE.



TYPICAL COSTA RICAN LAND CLEARED FOR PASTURE, WITH *CASTILLOA* LEFT STANDING (ON THE LEFT).



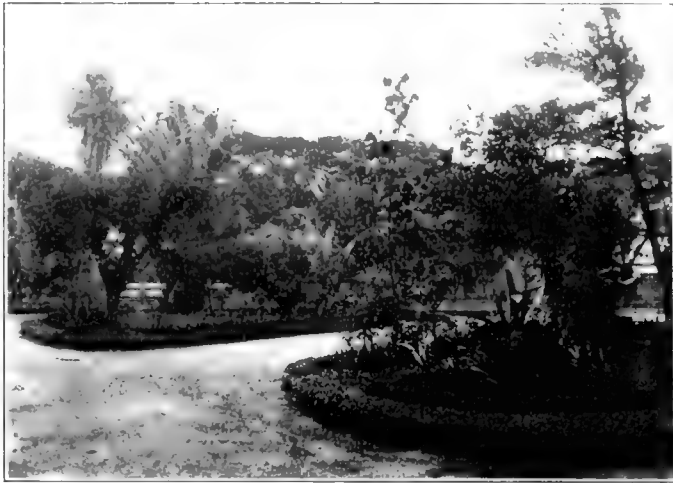
SCENE IN STREET IN SAN JOSE.

falling rocks and for landslides, and I fancy he is also particularly careful not to let the train get away from him, which, with the number of cars and the heavy freight carried, would seem to be a not unlikely happening. We therefore enjoyed afresh the magnificent scenery, and, before we got down to the tropics, the lovely, springlike weather.

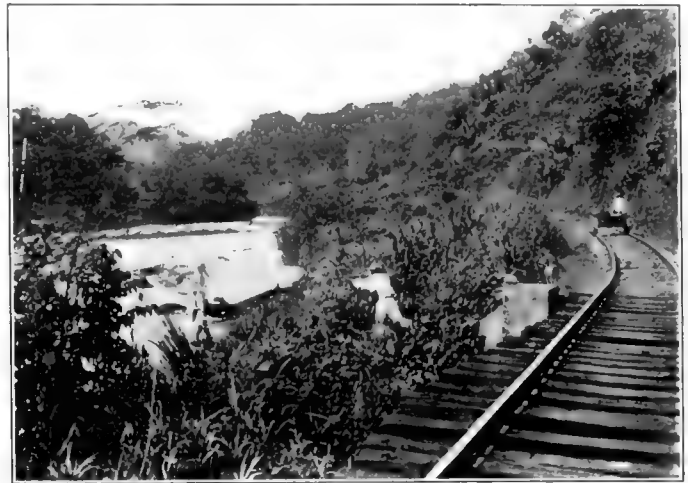
Reaching the plantation we were warmly welcomed by the planter in charge, who got us horses and took us over the planting. It was the dry season and there had been no rain at all for five days, but the ground was exceedingly soggy and wet, and while the bananas were apparently very thrifty, the rubber did not look as well as it should. The leaves, to be sure, were shedding, which made the trees look their worst, but the few trees that we tapped gave out an exceedingly thin milk, more like skimmed milk than cream containing for a guess, not over 20 per cent of rubber. It is possible, of course, that at the end of the dry season this might thicken up appreciably and be worth extracting, but unless that happened, they would hardly pay to tap.

In this connection a chat that I had with Mr. John M. Keith, the former planting expert of the United Fruit Co., is apropos. He said frankly that in that part of Costa Rica he did not think there was much land that was available for *Castilloa* growing; that it was too wet; that he had discovered that wild *Castilloas* that grew in wet places gave so thin a latex that the rubber was not worth gathering. My friend the planter had, while I was in New York, told me of another type of planting that he had done by clearing wide pathways through the forest and planting *Castilloas* so thickly that they took entire possession of the ground.

With some little trouble we finally located two of these plantings, and they settled in my mind forever the practicability of this sort of cultivation. The *Castilloas* had grown like weeds, but they looked more like fishpoles than rubber trees. By cutting out some of them and



CENTRAL PARK, SAN JOSE.



RAILROAD ON THE WAY UP TO SAN JOSE.

giving the sun a chance, no doubt something could be done, but unless some such measures were instituted, it would be years before the tree trunks would have bark surface enough to do anything at all.

That the trouble with the first planting was not due to the presence of the bananas was proved by a look we had at a small plantation run by a German, where the ground was much better drained and where the trees looked stocky and thrifty. We were also told that on the Northern railway on some of the uplands, the planters were putting *Castilloa* in land that had formerly been used for bananas and were getting excellent results.

All of this leads up to what I think I have before written, that a deep, open soil, particularly one that cakes at the surface a little and in which there is no chance for standing water, or nothing more than a very brief inundation, is what the *Castilloa* calls for.

The interest in the planting of India-rubber in Costa Rica

dates back some twelve or fifteen years. As early as 1892 it was reported that the wild trees near the cities and along the coast had been practically exhausted, and that what rubber was gathered came from the more remote mountain valleys. In that year the amount of rubber that came out of the country

was a trifle over \$6000 worth, less than half the amount shipped the preceding year. It was about this time that the government began to take an interest in the cultivation of rubber and passed laws against tapping the wild trees, and also offered prizes—one for \$8000 and another for \$5000—for the best plantations of *Castilloa* rubber. Both of these prizes were taken in 1894 by Minor C. Keith, who installed two plantations near Port Limon, the trees, some 25,000 in number being

planted with bananas about 150 rubber to the acre. At the time the prizes were awarded the trees were said to be eight or nine years old. When the writer visited Costa Rica no record of them could be found, although had they been cared



NATIVE RUBBER 10 YEARS OLD SURROUNDED BY PLANTED RUBBER AND CHOCOLATE.



TYPICAL LOWLAND TOWN.



RUBBER AND BANANAS.



RUBBER AND COCAO ALTERNATING, SHOWING METHOD OF CLEANING.

for, or even allowed to grow, they should have been somewhere about 20 years old and certainly big enough to tap. The gossips of the country appear to believe that so much quicker profit came to the planter through bananas that the rubber plantations were sacrificed to that industry.

From 1900 onward quite a number of companies were incorporated for the planting of *Castilloa*. A planter named Ed. Coles furnished in 1902 a list of eleven planters who had put in rubber, all the way from 10 to 100 acres. Some of these plantations, if they had been continued, would have trees that should be at the present time producers of rubber. The questioning of either natives or foreigners on the ground elicited very little information; about all they seemed to know or care about was bananas. From an American planter, however, we learned that Messrs. Hoffenstadt and Gillett, of Banco de la China, have a plantation where they lately tapped 600 *Castilloas* which were 6 or 7 years old, getting a pound of rubber from each tree.

The correspondent also mentioned an American family named Hogan who were planting rubber at the mouth of the Tres Amigos river, which was the beginning of the Costa Rica Development Co., with headquarters at Los Angeles, California. The officers of this company made arrangements for us to visit their plantation but that meant a call at Greytown, Nicaragua, to reach the Tres Amigos river, and we found that to be impossible. This company have 25,000 trees, a little over three years old, and about 15,000 two years old, which from the photographs that we secured appear to be in a most excellent condition.

In this connection it is interesting to note the activity of Mr. Th. F. Koschney, an old time settler on the San Carlos river, and one who has studied the *Castilloa* carefully. While not a botanist in the strictest sense of the term, his description

of the varieties of the *Castilloa* are of distinct value. He divides the *Castilloa* of Costa Rica into four species, the white, the black, the red, and the "tunu," the first three being all varieties of the *Castilloa elastica*. Botanists so far have not followed his discrimination carefully, and it is a question if rubber planters have made any distinction, nor has it been proved necessary. Of course, it would not pay planters to raise "tunu" gum instead of Panama rubber, but so far as we know no such planting has ever been done in Costa Rica or, indeed, anywhere where the *Castilloa* has been put in.

DEVELOPMENT OF COLOMBIA.

THE United States consular agent at Quibbo, Colombia, reports that President Reyes of that republic is undertaking to promote the development of the immense region in southern Colombia bordered by the Amazon and Orinoco rivers, and which for the most part has been neglected in the past. Not even such exports of rubber as are made by the semi civilized Indians in that region contribute to the national revenues, as they have always gone through the hands of traders of Venezuela or Brazil, being taxed as products of the latter countries. The Pará rubber tree (*Hevea Brasiliensis*) is asserted to abound in the forest of part of this region, in addition to other rubber producing species. The government of Colombia has entered into a contract with Dr. Luis Cuervo Marquez, formerly attached to the Colombian legation in Washington, and a partner, by which an exclusive concession of a very large area is granted for 25 years, in consideration of agricultural colonies being formed and small steamers placed on certain rivers, and an export tax of \$1 (gold) per 100 pounds paid upon all exports of rubber. The contract provides that certain large areas will be given in perpetual ownership if planted or cultivated during the 25 years' limit above mentioned. The contract is for all kinds of development in the region covered.

A correspondent of THE INDIA RUBBER WORLD mentions that the two concessionaires referred to above are among the most prominent citizens of Colombia. Dr. Cuervo Marquez was sometime governor of the department of Santander, has been *charge d'affaires* at Washington, is now a member of the national assembly, and is in the drug business in a large way in Bogota. His partner in the concession is Dr. Indalecio Camacho, educated in Europe and the United States, and famed in South America as an oculist and aurist. He is the owner of large planting estates and mining interests. The standing of these gentlemen leads to the belief that their concession will be developed on an important scale. Our correspondent adds that President Reyes's term of office will not expire for several years, and that during his administration a condition of tranquility and progress may be expected to be established which will continue under his successors. This opinion, by the way, is now held by many others.

COLORADO RUBBER "HOODOOED."

EVERYTHING, material and mental, political and religious, new inventions are met by the masses at their birth with a frown and a suspicion, and are fought from start to finish. Everything is compelled to grow and fructuate on its merits. So, with the Colorado rubber plant. It has been "hoodooed" by the claim of certain rubber companies to patents, that cover the product. This has hindered and obstructed its progress. It has been a scarecrow that has caused capitalists to wait and hesitate.—*Salida (Colorado) Mail, August 18.*



COCAO PODS AND SCRAP RUBBER FROM WILD TREES.

INTEREST IN "SAPIUM" RUBBER IN THE FAR EAST.

THE able Colombo journal, *The Times of Ceylon*, on August 12, printed a cablegram from its London office, referring to a report in the current issue of THE INDIA RUBBER WORLD (which had just then reached the correspondent), in regard to a new source of Amazon rubber, identified by the authorities quoted as *Sapium aucuparium*. The report mentioned the practice which has grown up in the Amazon region of mixing the latex of this tree with that of the *Hevea* species (the Pará rubber tree proper), giving rise to questions of what might result from a similar admixture of rubber latices in Ceylon, for example. In addition to printing the London cablegram, *The Times of Ceylon* obtained a statement in regard to *Sapium* species from Mr. Herbert Wright, of the Ceylon botanic gardens, which is printed, together with an editorial comment on the whole subject.

Below are reproduced the cabled report and Mr. Herbert Wright's comments:

I.

[From THE TIMES OF CEYLON, August 12.]

RUBBER FROM PARA.

MIXED WITH ANOTHER LATEX YIELDING TREE.—FORTY PER CENT. OF "SAPIUM."—A SUGGESTION FOR CEYLON.

[COPYRIGHT—BY SUBMARINE TELEGRAPH.]

Times of Ceylon Office, 27, Mincing Lane,
LONDON, August 12, 8 20 A. M.

THE American consul in Pará, in a report published in THE INDIA RUBBER WORLD, states that the great bulk of Pará rubber is not pure, but mixed with the latex of *Sapium aucuparium*, up to probably 40 per cent.

Sapium aucuparium is a hardy and rapid growing tree. The seeds are small, and although it would hardly be believed, it yields from 7 to 8 pounds yearly, but requires careful tapping.

The report expresses the opinion that it would be practicable to grow *Sapium aucuparium* in Ceylon if it was thought desirable.

II.

[From THE TIMES OF CEYLON, August 16.]

"SAPIUM AUCUPARIUM" AND PARA RUBBER.

WILD AND CULTIVATED "SAPIUM" SPECIES IN CEYLON.
—"SAPIUM AUCUPARIUM" AT PERADENIYA.

[WRITTEN FOR "THE TIMES OF CEYLON."]

YOUR letter re mixing Pará rubber latex with the milk from *Sapium aucuparium* to hand. I regret being unable to give you full information about the *Sapium* species and their possibilities in Ceylon, as I am replying to your queries while on inspection duty.

GROWN HERE AND HOW IT MAY BE IDENTIFIED.—The real *Sapium aucuparium* (Jacquin) is native to tropical America and has, under the name of *Sapium biglandulosum* (Mueller Arg.), been grown at Peradeniya for many years. It grows to a fairly large tree—40 feet high—and seeds freely. This species can be easily identified by the pair of opposite glands which occur at the base of the leaf blade. I enclose a specimen leaf showing these glands.

TAPPING EXPERIMENTS AT PERADENIYA.—The stem, branches, and fruit contain, at Peradeniya, large quantities of white latex, but my tapping experiments in 1902 gave unsatisfactory results, the latex from this species drying to a brittle resinous substance.

There will be no difficulty in supplying rubber planters with

seeds or cuttings from the large trees at Paradeniya, but it will perhaps be better to wait and see what product we obtain by mixing the latex of this species with that of Pará rubber. This experiment is now in hand.

It should be mentioned here that *Sapium Laurocerasum*, (Desfontaines) is sometimes called *Sapium aucuparium* (Willdenow). This is not the real *Sapium aucuparium*, however, though the stem contains milk from which a poisonous bird-lime is obtained.

"SAPIUM" SPECIES IN KALUTARA, GALLE, ETC.—Species of *Sapium* can be found growing wild in Ceylon and India and also in Africa, and far off China and Japan. One species in Ceylon, called by the Sinhalese "kiri-makula," and known botanically as *Sapium indicum* (Willdenow), is noted for the poisonous milky juice which it yields on tapping. It is an evergreen tree, its growth is rather slow, and it rarely exceeds 25 feet in height. We have no record of the weight of latex obtainable from it, and I should imagine the latter to be poor. This species is common in the moist low country, has been recorded from Kalutara and Galle, and may be recognized by its willow like leaves, greenish yellow flowers, and abundance of milk in young branches and fruits.

Another species known to some botanists as *Sapium ingigne* (Royle), to the Tamils as "tilai," and Sinhalese as "tel-kadura," is to be found in the Trincomalee and Jaffna districts. This tree grows to a moderate size, has green flowers, and becomes leafless once a year. The stem contains a white milky substance, but not in large quantities.

Many years ago, about 1820, if my memory serves me well, *Sapium sebiferum* (Roxburgh), commonly known as the "tallow tree" in China, was introduced to Peradeniya and Hakgala. The seeds are coated with "tallow" which is, according to Dr. Watt, used in place of animal tallow in China for the manufacture of candles, in soap making, etc.

MIXING NOT RECOMMENDED.—Though we do not know the possible yield or the quality of the latex from any of these species, I am inclined to doubt whether it would be any good attempting to mix the latex from species of *Sapium* with that from the introduced Pará, Ceará, or *Castilloa* rubbers, now flourishing in Ceylon. Where the *Sapium* and *Hevea* species are growing wild and intermixed with one another, as in the forests of Brazil, there is an excuse for the cooly mixing the latex, but such conditions do not obtain in Ceylon.

In conclusion, it should be pointed out that the genus *Sapium* belongs to the same group of plants as Pará and Ceará rubber and crotons.

HERBERT WRIGHT,

Acting Director, Royal Botanic Gardens.

III.

[From THE TIMES OF CEYLON August 10.]

["SAPIUM" RUBBER GROWN IN GUIANA.]

SIR: I should have stated in my previous letter that seeds of the rubber producing plant, *Sapium biglandulosum* or *Sapium aucuparium*, the "Touckpong" of British Guinea, were received from Mr. Jenman in May, 1887. Mr. Jenman then stated that "the tree is quite hardy, of rapid growth, yields abundant milk, and the rubber is of high class quality." Samples of the rubber were shown at the Colonial and Indian Exhibition [London] in 1886, and were favorably reported on.—I have,

HERBERT WRIGHT,

Acting Director, R. B. G.

August 17, 1905.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

THE WATERPROOF TRADE.

THERE are distinct signs of animation in this parlous branch. A manufacturer told me the other day that he had had more inquiries the previous week than during the whole of last year. Perhaps this may be somewhat of an exaggeration, but this does not falsify my opening sentence altogether. A good deal, it is said, will depend upon the weather of the next few weeks. With regard to the motor clothing business, the wholesale firms say it is not large enough to attract them, and it is mostly in the hands of middlemen who buy the proofed cloth and make it up into the style of the moment. The macintosh coat is now being generally worn by owners of motor cars in preference to the leather one which is now the regular uniform of the professional driver. A material which is in considerable favor is that known as Burberry, being the product exclusively of a Hampshire firm of this name. Next to the macintosh coat it has the reputation of high waterproof properties, being in this respect considerably superior to the ordinary rain-proof cloths. If unfavorable weather really is the one thing wanted to cause the waterproof trade to flourish, the wet August we have just experienced ought to have given the desired stimulus.

THE MASTIC MICHELIN.

To satisfy the inquisitiveness of a motorist friend, I have been investigating the substance sold under this name as part of the motorist's outfit. It is intended for filling up cracks in tires, and is found of considerably more utility for this purpose than is the ordinary rubber cement. The main feature about it is its extreme stickiness. I cannot account satisfactorily for this as there is but little resinous matter present. It rather looks as if the rubber had been partially melted. It contains a little over 8 per cent. of litharge, but no sulphur. Except as a drying agent in reducing tackiness I don't quite see the object of the litharge. With regard to the utility of this mastic, I don't find unanimous approval among motorists, but there seems no doubt that it is superior to ordinary solution in the case of vulcanized rubber, and if put into a crack soon enough, it must certainly be beneficial in preventing the ingress of water and dirt.

THE CARD-CLOTHING INDUSTRY.

No general arrangement with regard to an advance in prices in consonance with the high price of rubber has been come to, and the makers of rubber faced cards speak in lugubrious tones as to the position. Messrs. Horsfall & Bickam, of Manchester, though still outside the associated Yorkshire firms, are, it is understood, quite in agreement with them as to prices, but the antagonistic position taken up by the few other outside firms makes it impossible for any formal advance to be notified, as in other branches of the rubber manufacture, where practical unanimity has prevailed. The rubber face is still considered the best article for the cotton mill, but in the case of wool either the composition card or the plain felt is in general use. The oil used in the ordinary process of wool spinning is of course destructive to the rubber card, though less in the case of the vulcanized than the unvulcanized. The use of oil refers more particularly to the Bradford district the principal seat of the woolen industry. In Messrs. Holland & Sons' woolen mills in Manchester and Stockport the dry or French process is in sole use, no oil being here used in the spinning. The cards used are plain felt, though in this case if it were thought advantageous to have the greater

elasticity given by rubber no objection could be urged on the score of oil as is the case at Bradford. It is now the rule to thoroughly free from oil Bradford goods which are intended for waterproofing purposes, and I have not heard for a long time of any trouble arising between the woolen manufacturers and the waterproofer on this score, though 20 years ago acrimonious correspondence was not infrequent. The weaving of woolen cloths is now at Bradford as well as elsewhere without the agency of oil, the warps being merely sized and this innovation on the practice of old times has relieved the waterproofer of his former anxiety. A point of some importance to the users of rubber faced cards is to prevent the steel points from becoming rusty. Owing to the well known destructive action of oil upon rubber there has naturally been much hesitation in using anything of an oily nature. I am informed, however, that recent experiments have resulted in finding an oleaginous body which answers the purpose well and which has no destructive effect upon the rubber. To nickel plate the steel, it appears, would be an expense which the business will not stand, though it suggests itself as eminently desirable.

RECLAIMED RUBBER PATENTS.

"THE object of the present invention is to reclaim waste vulcanized India-rubber, and render the same available for employment in the capacity of rubber previously unused." Thus Messrs. Gregory and Thorn, in a recent British patent. After reading the patent through I have come to the conclusion that though the object of the invention is no doubt correctly described, the results are anything but conclusive as to the object having ever been attained. Briefly described the process consists in grinding the rubber to crumb, boiling it in dilute hydrochloric acid to extract the mineral matters, drying the rubber, and then dissolving it in a mixture of aniline oil and naphtha. The solution is passed through a strainer and is then, we are told, ready for any purpose for which it is intended. I am quite in the dark as to what these uses for such a solution are. Supposing as stated that the solvent will readily evaporate at the ordinary temperature, this can only refer to the naphtha and not the aniline, which is an oily liquid boiling at 363° F. Surely some process of separating the rubber from its solution is necessary, and when this is done I fully expect it will be found that the separated rubber is of much the same value as the original ground crumb, and that it has not been devulcanized to any appreciable extent. The authors say that they do not claim the use of aniline as a solvent as a novelty, but only in their mode of application. Of course it may be that some vital part of the process has been withheld from the public eye in order to baffle the schemes of infringers; certainly as I have seen it in print I cannot see that the patent has any value. Of course aniline as a solvent for waste rubber is not novel. I understand that the chief reason for its abandonment was the expense. Complete solution of the vulcanized rubber in an oily liquid is the principle of the patent taken out by Robinson Brothers & Clift. The liquid they use is what is known as heavy bases, a residue in the preparation of pyridine from coal tar. In this case, the mineral matters fall to the bottom of the solution vessel, and there seems no object in previously removing them by hydrochloric acid according to Gregory's patent. Moreover in Robinson's process it is not suggested that the oily solution of rubber should be utilized, but the rubber is completely separated from solution by chemical

means on lines well known to those who manufacture coal tar products.

FOR many years as will be remembered the bulk of the retail business was done by Messrs. Ayres. Then three years ago Messrs. Slazenger, their most formidable opponents, got the bulk of the tournament and club orders owing to some extent no doubt to the fact of their having a very prominent British player on their board. I understand that neither of these firms make the ball; they buy the balls from the rubber manufacturer and put the felt covering on. What difference there is between them seems to be largely a matter of the quality of the felt and of uniformity in size and weight. The ordinary player no doubt would not see any difference between one make and another, but the leading players are very discriminating and a good deal of discussion has been going on lately with regard to the relative merits of the balls supplied by the two firms. Of course I am referring only to the championship balls, sold at a shilling each; the cheaper balls have not a very large sale and when bought they are often made to do duty for a long time. In the principal tournaments large numbers of balls are used; for instance in the final at Wimbledon between the American and British pairs for the Davis challenge cup six new balls were used in each of the five sets played and no doubt a correspondingly large number were used in the previous international contests which did not come under my personal observation. The principal makers of lawn tennis balls are Messrs. Charles Macintosh & Co., The Irwell and Eastern Rubber Co., and the New Eccles Rubber Works—the last firm, as will be remembered, using the Cox patent machine. Owing to the fact of the quality remaining the same while the price of rubber has advanced the manufacturers have naturally had to advance their prices to the middlemen; as, however, the retail prices have not been raised it is a fair supposition that the profits of the latter have suffered a serious diminution. It may be therefore, though I speak without any actual knowledge, that a lower quality of felt covering has been used in order that the business may be maintained without loss. A difference between Ayres's and Slazenger's balls which I have not mentioned is the degree to which they are blown up: this difference is quite perceptible in some seasons and players who have accustomed themselves to one make find a difficulty in showing to advantage with the other. Of course the middlemen are not limited to British balls; the Germans have long had a cut in though what the present position is with regard to their competition I am unable to say.

A RECENT financial supplement of *The Times* contained a special article on Ceylon rubber, attention being drawn particularly to the expected labor difficulty, and the need of more railway communication to deal with it. No doubt this matter will become of increasing importance; it has already become acute in the Straits Settlements where a partial solution has been obtained by the importation of Javanese. At present most of the Ceylon labor is obtained from India, the Cingalese not having much reputation as workmen. In contradistinction to what obtains in Brazil, however, there is no climatic reason against the employment of European labor in Ceylon, and we may see labor largely augmented from this source in the future. Of course the labor question can never become of the same importance with rubber as with tea and coffee. In the latter cases the produce is spoilt unless gathered at the right time, while with rubber the matter resolves itself merely into delay, the product improving rather than deteriorating by remaining in the tree. So far the canker pest seems the worst enemy the Ceylon planters apprehend, though I understand that loss from

this source can be largely minimized by energetic and prompt measures at its first appearance.

A LAW will shortly come into operation in France forbidding the use of white lead as a paint on account of its poisonous properties, a piece of legislation much on a par with the prohibition of phosphorus matches in Holland and Scandinavia. With regard to the white lead in France, this may have the result of raising the price of zinc oxide, which must now be more generally used. I only suggest this as a possible contingency which the French rubber manufacturers may have to face. Against this, however, there is the recent increased production of zinc in many countries of the world, notably in Australia, where the old problem of treating complex zinc ores seems at last to have been satisfactorily solved. If one can gage the future at all, the outlook is all in favor of cheaper zinc and consequently of cheaper oxide. Despite the numerous attempts which have been made to produce the oxide direct from the ore, practically no success has been attained in Europe, the Vieille Montaigne product made by burning the metal still holding the field. In America, however, the oxide is prepared direct from the refractory zinc ores of New Jersey, though this product hardly comes at all into competition in Europe with the Belgian oxide.

IN my August notes (page 373) I made a short reference to a new process for recovering rubber from insertion by mechanical means alone. Having had some enquiries on the matter, I will endeavor to explain the process somewhat in detail. The rubber containing fiber and metal is first ground up to powder by rolls in the ordinary way. The powder is then allowed to fall on a grating through which a current of air is blown. The grating has a jolting action, the result being that the fiber is blown away while the rubber and metal fall through the grating into a centrifugal fan. The action of this is to force the material against a screen, but in its fall it meets with a cross blast from another fan so regulated that it blows the comparatively light rubber down into a bag while the metal continues its course into a receptacle farther on. This description may not be very easy to follow, but at any rate it will give a general idea of the process. I can't say that I am much enamored of it, though I speak without any practical experience of it. It seems to me that existing methods are simpler and likely to prove less costly. Of course there may be special cases where its utility could not be called into question, and I may take an opportunity of again referring to the matter, should further details come to hand.

THE fact that the monopoly of the world's sulphur supply so long held by Sicily is now a thing of the past, owing to the successful exploitation of the Louisiana deposits, is a matter of general interest. Among those who have a special interest in forthcoming events are the rubber manufacturers, for it is evident that a war of prices must ensue between the Union Sulphur Co.—the new American concern—and the Anglo-Sicilian Sulphur Co., which rules the destinies of Sicily. The latter has not yet decided whether to enter on a new arrangement for a term of years. Certainly in the past few years it has been a decided benefit to the volcanic island in regulating output and prices, and at the same time it has paid its shareholders substantial dividends. From a circular sent out from Stuttgart, where the European agency of the American Co. is located, it seems that a strong bid will be made for European business, and the outlook for the Sicilian miners is anything but promising, all the more if the American claim of higher purity for their product is found to be strictly the fact.

LAWN
TENNIS
BALLS.

WHITE LEAD
LEGISLATION.

NEW
RUBBER SCRAP
MACHINE.

CEYLON
RUBBER
PLANTING.

FUTURE PRICE
OF SULPHUR.

BAD CONDITIONS IN THE ACRE RUBBER DISTRICT.

By Senhor Franco Vieira.*

IT is an urgent necessity for the government to provide legislation for the *seringaes* (rubber camps). At the present time the proprietors of the lands are left without any security.

After the treaty of Petropolis, by which the government purchased from Bolivia nearly the whole of the department of Upper Acre, Colonel Cunha Mattos, at that time the prefect, promulgated a land law, providing for a term of two years, during which the owners of the *seringaes* were to mark the boundaries of their lands, so as to obtain title thereto, the said owners paying to the Union, however, a sum which, unless we are mistaken, was fixed at 5-100 of a real per square meter.

The same regulations provided for a term of six months, during which those who had prospected and taken possession of lands could take out a provisional title, in order to secure the occupation of the explored lands.

According to our information, about 30 provisional titles were issued, while there were recorded at the office of the secretary of the prefecture 10 to 12 final titles which had been issued by the government of the state of Amazonas, as well as those granted by the Bolivian government. It will be well to add that both governments received money for the sale of the lands in question, and there can be no doubt, therefore, that the owners of final titles issued by either of the said governments have at this time the uncontested right of ownership to the lands in question.

It was thus understood by the colonel ex prefect, as is shown by the following instance: When the Messrs. Joaquin Alves Maia and Fiusas Porto & Cia., proprietors of the *seringaes* of "Soledade," the first named of those on the left and the last named on the right bank of the Acre river, applied for the titles of ownership to the said *seringaes*, on the ground that they had previously paid the purchase price to the government of Amazonas, there being scarcely due more than the last instalment, their application was granted, the balance of the purchase price being collected by the revenue office at Porto Acre, and the respective titles of ownership issued.

The above were the only titles granted, because, in spite of the fact that many other lands were in the same condition, no more titles were issued on account of the receipt by the prefect of a copy of a telegram from the secretary of the interior, addressed to the special delegate at Manáos, in which the secretary declared that the prefects did not possess the right to give a decision in regard to the sale of lands, the government of the Union alone being competent to do so.

This resolution, which seriously affected the interests of the proprietors of *seringaes*, was unfavorably received by the inhabitants of Acre, who, since the revolution, had been anxious to have their rights confirmed, the more so as many of them had been occupying the lands for more than 10 or 20 years past, and had wasted their youth in such an unhealthy place, suffering the severest privations, only to see themselves at the present time deprived of all security of possession.

We feel sure, however, that the government, being now better informed, will take action for the care of the interests of the population of Acre, whose resources are at the present time exhausted, the greater part of the land owners finding themselves in this condition because they gave all they could for

the support of the revolution against Bolivia, as they were anxious to have the department of Upper Acre become the property of the Brazilian government.

Only those who traveled through this region and were able to observe the patriotism by which the population is inspired, have seen how, after the end of the revolution, many citizens who were formerly wealthy, turned to the cutting of rubber trees, as they had become absolutely poor, and were, moreover, dispersed among the towns of Pará and Amazonas.

Not one of these had received an indemnity.

What these people demand to-day is the securing of their rights, the respecting of their interests, and such legislation as will secure to them the fruits of their honest labor.

The territory is immensely rich, and if the government will facilitate immigration and provide labor laws in accordance with the requirements of the region, we shall within a short time see Acre become a state well worthy of standing by the side of Pará and Amazonas. The rubber crop alone would suffice to bring about such prosperity, because, besides the present large export, it will be well to keep in mind that the greater part of the department of Upper Acre remains to be explored, the rubber lands there being still virgin territory.

If the department of Upper Acre exported last year more than 2,000,000 kilograms of India-rubber, besides the Cauchó and *sernamby*, without having the labor which it requires, we can imagine what the result would be if the current of immigration were directed towards it. The production would, without exaggeration, be three or four times larger, and thus secure to the government a fabulous revenue, well capable of wiping out within a short space of time the deficit resulting from the purchase of the territory.

In order to bring this about, it will be sufficient for the government to extend aid to those desiring to go to Acre, which would not be very expensive, a third class passage from any of the northern states to Upper Acre, Purús, or Juruá, not costing more than 300 milreis.* Now, as each immigrant would produce at least 600 kilos [=1322¾ pounds] of India-rubber, at the rate of 7 milreis, or a total of 4200 milreis, on which a duty of 18 per cent., or 756 milreis would be levied, this amount would within the first year pay for the passage and leave a not inconsiderable balance.

In making up the above figures, we have taken into account those who may die in the territory in question, as many of the survivors will produce twice the above mentioned quantity and even much more. The government has, moreover, facilities at its command for making shipping contracts, thereby largely reducing the price of the passage as quoted above.

In the meantime, the proprietors of *seringaes* who come down each year in search of help, can make contracts with a few persons only, because the cost of loans of capital is enormous, and whenever payment is not promptly made, the rate of interest at harvest time rises above 20 per cent.

Consequently, the proprietor of a *seringal* who would require 500 to 600 men, works with 100 men only, or at least with only a few more, for, if he has a surplus of 20 or 30 men, an equal number of those he has assisted will go away to see or visit their families.

It was impossible to take a census of the department in ques-

* In the *Jornal do Brasil* (Rio de Janeiro

* With exchange at 10 pence, equal to \$103.41 gold.

tion, notwithstanding the good intention of the ex-prefect, but the population is figured at 10,000 to 20,000 souls, the majority being entirely illiterate. For this reason the prefects are meeting with enormous difficulties in obtaining persons fit to fill Federal offices, as we have stated before.

We shall not, however, deviate from our purpose of petitioning the government to direct the flow of emigration towards this department, and when this shall have been accomplished, we believe we shall have rendered one of the best services to the inhabitants of Acre, as well as to the whole of Brazil, which will, within a few years, have in Acre an enormous source of revenue.

RUBBER MONOPOLY IN NICARAGUA.

THERE was due to go into effect on September 1 a concession granted by the president of the republic of Nicaragua to two citizens of that country, for a monopoly of rubber gathering from wild trees in certain districts which now yield the greater part of the rubber exported from that country. It is known that the granting of the concession was strongly opposed by at least two important commercial houses having connections in Bluefields. A report reaches THE INDIA RUBBER WORLD that the districts covered by this concession yielded during the last fiscal year about 350,000 pounds of rubber; the total exports of rubber from Nicaragua in 1903 amounted to 530,090 pounds. The amount payable to the government by the concessionaire is equivalent to about \$160 gold. The Bluefields *American* says: "It is a measure which vitally interests every merchant on the coast and rivers. We mean those who have, as has always been the custom, advanced merchandise and cash to the rubber cutters in the hope of being paid back in rubber." It is stated that another rubber concession has been granted to the minister of fomento for the territory of Cabo Gracias, but has been suspended indefinitely.

A translation of the concession first mentioned follows:

CONTRACT.

JOSÉ D. GÓMEZ, Secretary of Commerce, Industry, Agriculture, Public Works, etc., in his capacity as representative of the Government, being the party of the first part, and FRANCISCO GUERRERO and JUAN DE DIAS MOREIRA, being the party of the second part, have agreed to enter into the following contract:

I. The Government leases to Messrs. Guerrero and Moreira, for a term of 10 years, the exploitation of the rubber producing lands situated within the jurisdiction of the department of Zelaya and the districts of Prinzapolka and Rio Grande.

II. For the purpose of preventing the destruction of the rubber trees, and of making sure that they will be cared for, Messrs. Guerrero and Moreira obligate themselves to employ expert rubber gatherers who will observe and strictly comply with the provisions of Article II of the Regulations of October 15, 1901, reading: "It is prohibited to make incisions in rubber trees, of such a depth as to affect the wood itself. It is likewise prohibited to make incisions extending to more than one half of the circumference of the trunk or branches. Any infringement of the provisions of this article will be punishable by a fine of 5 dollars (pesos) for each damaged tree."

III. Messrs. Guerrero and Moreira shall, during a term of 10 years, pay to the Government an annual rental, amounting to the sum of 1000 dollars (pesos) in treasury notes, the said rental to be paid into the general treasury at the end of each quarter, without prejudice to the payment of the export duties.

IV. No one shall be permitted to extract rubber on national lands within the territory covered by this contract, and without a written permit from the lessees, all infringements of this provision being punishable by the forfeiture of the rubber for the benefit of

the lessees, one third part of the same being allowed to the informer or the party apprehending the guilty person, without prejudice to the penalties provided in the Regulations of October 15, 1901.

V. Whenever the lessees are not the exporters, the chief of the Bluff custom house shall not permit the shipping of rubber, and shall confiscate the quantity submitted for export, unless the party interested shall attach to the respective application a voucher stating the place of origin of the rubber and specifying the names of the particular ranch or rubber producing lands and of the proprietor thereof, certified to by the highest authority of the township to which the ranch or rubber producing lands belong. Should he not be the owner of rubber producing lands, he will be obliged to produce the authorization referred to in Article 27 of the Regulations of October 15, 1901. The lack of the aforesaid documents, shall, whenever it occurs, make the official who shall permit the shipping, subject to a fine amounting to 50 per cent. of the value of the exported rubber.

VI. This present contract may be transferred in whole or in part to any person or company complying with the provisions contained therein. If the said person or company should, however, be of foreign nationality, they will be subject to the laws of this country in all matters involving this present contract which shall be in force from the first day of September next.

VII. Default in the payment of the annual rental referred to in Article III, as well as any infraction of Article II, shall constitute sufficient reason for the annulment of this contract, which is to be submitted for the approval of the Executive.

In witness whereof we affix our signatures to this present contract, at the Department of Commerce, Industry, Agriculture, etc., at Managua, on the second day of August, 1905.

JOSÉ D. GÓMEZ.

FRANCISCO GUERRERO.

J. DE D. MOREIRA.

The President of the Republic decrees: To approve the foregoing contract.

Managua, August 2, 1905.

Signed for the President.

The Secretary of Commerce, Industry, Agriculture, etc.

GÓMEZ.

* * *

THE last published report by the British consul on the trade and commerce in Nicaragua says: "All the India-rubber exported is gathered in the mountains from forest trees, and the rubber cutters being under no restraint bleed the trees to excess, cutting even very young trees that can give but little milk. In consequence many trees die, and the amount collected tends to diminish every year; nevertheless, India-rubber still appears as the fourth in value of the exports from Nicaragua, and in the year 1903 530,090 pounds valued at £58,405 were shipped, all of which, with the exception of 277 pounds sent to the United Kingdom, went to the United States of America. The price of Nicaragua India-rubber in the United Kingdom is about the same as in the United States of America, and the reason why practically the whole of this produce is shipped to the United States is partly on account of the cheaper freight, but more especially owing to the continuous loss of weight from evaporation that the rubber undergoes. In New York, the principal market, the India-rubber is nearly always sold, immediately on arrival, 'ex wharf,' whilst in London the rubber is generally warehoused and not sold until the periodical auction sales take place in Mincing lane. The increased loss of weight caused by the delay, in addition to the heavy wharfage, warehousing, and sale expenses, and the increased freight and delay in returns, makes it more profitable to consign the India-rubber to New York firms rather than to ship it to London."

PROGRESS IN RUBBER PLANTING.

MALACCA RUBBER PLANTATIONS, LIMITED.

THE formation of the company which is to acquire the important Bukit Asahan rubber estate, in the Malay peninsula, mentioned in this Journal last month (page 413), and in which American capital is to be interested, has been undertaken, according to *The Times of Ceylon*, by Messrs. Jeremiah Lyon & Co., of 4, Lombard court, E. C., London. It appears that the Messrs. Lyon have been connected in the past with important flotations. News has reached Colombo by wire of a delay in the flotation of the Malacca Rubber Plantations, Limited, due entirely to some question of title remaining to be settled. It was asserted that everything was in order, and that only formalities had to be observed.

Low Gek Seng, late manager of an important mercantile firm at Bangkok, chief member of the Chinese syndicate which co-operated with the representative of Alden, Symington & Co. in securing an option on the rubber estate, and who accompanied him to London, has supplied some details regarding the estate and the proposed plan of capitalization, which appear in *The Straits Times*. It appears that there are 3500 acres fully planted (including 500 acres to be planted with rubber this year) there being all told about 648,000 rubber trees, the ages of which are indicated by the following record of planting:

YEAR.	Para (<i>Hevea</i>).	<i>Ficus elastica</i> .
1899.....	19,763	4,393
1900.....	43,443	12,286
1901.....	142,050	11,315
1902.....	63,929	19,353
1903.....	106,120	13,370
1904.....	191,820	20,158
Total.....	567,125	80,875

The proposed new company to be registered in London—Malacca Rubber Plantations, Limited—is to be capitalized at £400,000, in £1 shares, as follows:

£285,000 in ordinary shares.

£115,000 in 7½ % cumulative preferred ordinary shares.

Of the ordinary shares, £200,000 will be issued as part payment to the vendors and £85,000 issued for subscription, the proceeds to be devoted solely to opening up in rubber an additional 6000 acres, which have been secured for the new company. On each of these 85,000 shares the first call will be for one-eighth, with further calls for one-eighth at periods not less than 6 months apart. Of the proceeds of the 115,000 preferred shares, also to be offered for subscription, £100,000 is to be paid in cash to the vendors, and the remaining £15,000 used for formation and working expenses, it being guaranteed that the cost of formation shall not exceed a specified low figure.

As already mentioned in these pages, the Bukit Asahan estate has been developed by The Malacca Rubber and Tapioca Co., Limited, with offices at 39 Heeran street, Malacca. According to the "Singapore and Straits Directory" the directors are: Tan Chay Yan (chairman), Tan Tat Yan, and Seet Lian Seek. The general manager of the company is Tan Cheng Yan, his assistant Tan Tat Yan, and the estate manager Tan Tiam Hock. Tan Chay Yan is a wealthy Chinaman, mentioned in the directory as manager of the estate of Tan Tek Guan, at 39 Heeran street, and the other Tans are relatives. Seet Lian Seek is in business at Singapore.

The Bukit Asahan estate has been visited, reported on, and valued by Mr. W. W. Bailey, who is recognized as one of the best authorities on rubber planting in the Straits. His report, sent to London, has not been made public in the Far East.

RUBBER PLANTING IN KALUTARA (CEYLON).

[From the annual report for 1904 by Mr. B. Horsburgh, assistant government agent for the Kalutara district.]

HITHERTO rubber cultivation has been entirely in the hands of European planters, but enterprising natives are now taking up the product, though the ordinary cultivator still prefers to trust to the old and tried cocoanut tree. There are 6759 acres of tea land planted with rubber among the tea bushes. For land exclusively planted with rubber the following figures give the areas and show the progress made:

1901.....	436 acres	1903.....	1,127 acres
1902.....	667 "	1904.....	3,301 "

One hundred and seventy-eight acres are entirely in native hands. The output figures are as follows:

1901.....	3½ tons	1903.....	15 tons
1902.....	7½ "	1904.....	23½ "

—the approximate area in bearing during 1904 being 242 acres, or 49,484 trees. So far there has been no appearance of disease, and planters are confident of the healthy state of the plantations.

ISTHMUS RUBBER CO.—REORGANIZATION.

INVESTORS in the Isthmus Rubber Co. of Uvero—incorporated in 1901 with headquarters at No. 29 Broadway, New York, to form a rubber plantation near Uvero, in the state of Oaxaca, Mexico—have received circulars from the office of the company outlining plans for the merger of the company named and the Oaxaca Real Estate Development Co., with which later company a contract exists for the development of the lands sold by it to the Isthmus company. These circulars set forth that the failure recently of two rubber planting companies in Boston, and an unwarranted attack made upon the Isthmus company in connection with the affair, have worked a great detriment to the Isthmus company, in that the sale of stock has fallen off and many subscriptions for shares have been cancelled. The resulting loss of income will prevent the company from complying fully with its contract with the Oaxaca development company, which default would justify the latter in cancelling the contract and taking over from the trustees the land in question and the developments to date. A meeting of shareholders in the Oaxaca Real Estate Development Co. has been called for October 9, at Jersey City, and a meeting of investors in the Isthmus Rubber Co. for October 10, in New York, for the purpose of voting on the plan of merger, which involves the forming of a new corporation to succeed the two old companies, for which the name Oaxaca Rubber Co. has been suggested. Under the new plan there will no longer be an "inside" or development company, but all persons in interest will share in the profits of planting and development work, whereas hitherto these profits have not been participated in by the investors in the Isthmus company.

LA TRINIDAD MEXICAN PLANTATION CO.

[Plantation: "La Trinidad" and "Ixtal," near San Juan Evangelista, state of Vera Cruz, Mexico. Office: Monger block, Elkhart, Indiana. See THE INDIA RUBBER WORLD, May 1, 1902—page 251.]

THIS company was incorporated July 20, 1905, under the laws of Maine, with \$300,000 capital, to take over the entire assets of La Trinidad Mexican Plantation Association (Chicago), organized March 1, 1901. A new board of officers has been elected: Horace Hogendobler, Elkhart, Ind., president; Louis M. Cahn, Chicago, vice president; C. L. Andrews, Augusta, Me., clerk; W. H. Hoffman, Goshen, Ind., secretary;

Willard M. Ellwood, Elkhart, Ind., treasurer. The investors in the old company are informed that the new company will have direct charge of operations in Mexico, instead of the plantation being managed through contract with a development company as heretofore by La Trinidad Mexican Plantation Association. Mr. Pearson, of THE INDIA RUBBER WORLD, spent some time on the company's hacienda "Ixtal" in the early part of 1903, and photographic views of the plantation appeared in the August issue of this Journal in that year. Treasurer Ellwood now writes: "We have the oldest rubber so far as we know on the gulf coast in the Isthmus territory but do not expect to commence tapping commercially for two or three years."

ORIZABA RUBBER PLANTATION CO.

[Plantation "El Chival," Salto de Agua, state of Chiapas, Mexico. Office: No. 11 Quincy street, Chicago, Illinois. See THE INDIA RUBBER WORLD, March 1, 1904—page 185.]

THE last report by an inspector chosen by the shareholders, dated September 1, 1905, is signed by W. S. Sweeny, principal of a public school in Jersey City. He arrived at the company's plantation on July 25, and his report gives detailed statements in regard to the various features of the plantation, which is principally devoted to rubber. He concludes his report on the condition of the plantation: "Nothing short of a convulsion of nature or the worst of bad management can make it a failure." Mr. Sweeny's report includes notes on a number of other company and private plantations of rubber which he saw while in Mexico, the condition of which on the whole further encourages him in the hope that rubber planting there promises ultimately to be exceedingly successful. For instance, he mentions "La Ventura" plantation [in charge of Mr. James C. Harvey], who, after tapping experimentally some six year old rubber trees to determine the quality of the rubber, submitted samples of the product to rubber merchants who offered him \$1.05 gold for such rubber in large quantities. Mention is made of Señor Pedero, who claimed to have 2000 cultivated rubber trees 14 years old, which he had tapped for several years, selling the product, and that there were several other plantations in his neighborhood of from 10,000 to 50,000 trees from which rubber had been shipped for years. The report adds: "Juan Roviera has a plantation 30 miles north of Huimanguillo, which contains 2000 cultivated trees 12 years old. When the trees were nine years old he took one pound of rubber from each tree and sold it for \$2200 gold." Dr. George B. Abbott, who has been mentioned before in these pages as the plantation manager, is about to retire after several years' residence in the tropics and be succeeded by Mr. P. L. Barrerquy, who is mentioned as having had 15 years' experience in tropical agriculture.

RUBBER AT THE PENANG (MALAY STATES) SHOW.

THE second yearly Agri-Horticultural Show of the Federated Malay States was opened at Penang on August 9, by the governor, Sir John Anderson, K. C. M. G., with a very encouraging attendance. The local newspapers devote special attention to the very large and varied exhibit of rubbers produced from plantations. The *Malay Mail* says: "The interval of a year since the Show was held here has made an enormous difference in the state of rubber preparation. A year ago our planters were working more or less in the dark, and it was only then at the Show itself that the washing machine which appears to have such a great future before it was brought before the public gaze. [See THE INDIA RUBBER WORLD, October 1, 1904—page 12.] Here the exhibit of rubber was but small, but according to information to hand ample amends appear to have been made in this respect at the Show now pursuing its successful course in the northern colony." The governor in his address spoke

of the great advance made by the rubber planters in the preparation of their rubber since last year. He said that the success with rubber had had the interesting effect of attracting the company promoter, a very astute gentleman whom he warned the planters to be very careful in dealing with; however other people come out, a company promoter will always come out well. He reminded the planters that what is good to sell is generally good to keep, and that they should not be in too great haste to dispose of their plantations. He would rather see a planter looking after his own estate than a manager looking after the land on behalf of an absentee company. Mr. W. R. Span showed a machine for preparing rubber, which is described as not unlike a clothes wringer except that it has three rollers working at varying speeds. The rubber is drawn through the rollers, which extract the water, and comes out in thin dry sheets.



RUBBER TAPPING IN NICARAGUA.

THE tapping of six year old *Castilloas* at the "Canada" plantation, Bluefields, Nicaragua, shown in the illustration, is along lines worked out by Mr. Gordon Waldron, resident manager and largest owner. The tool used is made from a *machete*, and is of the chisel type. Under the cut is placed a tin cup, twelve cups to the tree. When the flow ceases the latex in the cups is poured into a pail of water, and the cup rinsed out. Coagulation is effected by boiling.

The machine was awarded a diploma and the handsome cup presented by members of the Engineers' Institute.

NEW CEYLON PLANTING COMPANIES.

RATNAPURA Rubber Co., Limited, with a nominal capital of 250,000 rupees [= \$81,100] has purchased Kosgalla and Gabella estates, at Ratnapura in Kuruwita district. There are 563 acres, of which 138, on Kosgalla, are in tea, which is to be interplanted with rubber, and the rest is forest land which will be developed in rubber later. The first directors are R. F. S. Hardie, R. W. Harrison, M. F. Khan, and E. M. Shattock.

=Kapar Para Rubber Estates Co., Limited, registered in London August 28, 1905, with £50,000 capital, to adopt an agreement with J. B. Fletcher, W. W. Bailey, and W. Newett, providing for the acquisition of certain property in the Federated Malay States, and to carry on the business of rubber planters. Registered office: 81, Gracechurch street, E. C., London.

RECENT RUBBER PATENTS.

UNITED STATES OF AMERICA.

ISSUED JULY 18, 1905.

- N**O. 794,725. Vehicle wheel [with sectional elastic tire]. E. Mari, Buenos Ayres, Argentina.
- 794,766. Hose coupling. Samuel G. Wright and J. T. Vines, Huntington, W. Va.
- 794,782. Stopper holder for water bags. A. C. Coe, Orange, Conn., assignor to The Falcon Rubber Co., New Haven.
- 794,814. Reservoir pen. W. W. Sanford, Newark, N. J., assignor of one half to F. D. Bennett, Freehold, N. J.
- 794,815. Vehicle tire and rim. F. A. Seiberling, Akron, Ohio.
- 794,816. Vehicle tire. *Same*.
- 794,832. Footwear. [Shoe having an elastic sole.] C. T. Adams, New York city.
- 794,836. Fountain pen. T. P. Ambrose, Cincinnati.
- 794,879. Rim for wheels [to retain a pneumatic tire]. J. M. Padgett, Topeka, Kans.
- 794,892. Packing. A. B. Schier, Milwaukee, Wis.
- 794,920. Gasket. D. C. Blanchard, Chicago.
- 794,987. Packing. G. M. Kneuper, New York city.
- 795,069. Hose coupling. R. F. Settlege, St. Louis.
- 795,075. Leather and rubber sheet or strip. J. J. Steinharter, Philadelphia.
- 795,076. Apparatus for coating leather with rubber. *Same*.
- 795,108. Pneumatic pillow. L. F. Doellinger, assignor of one half to L. M. Holliday, both of Des Moines, Iowa.
- 795,171. Tire for vehicle wheels. F. Sadler, Wandsworth common, England.
- 795,176. Fire apparatus. S. A. A. Stenberg, assignor of $\frac{1}{100}$ to W. E. Cumbach, both of San Francisco.
- 795,210. Hose clamp. H. N. Evans, assignor of one-half to F. DeW. Morris, both of Philadelphia.

Trade Marks.

2404. Fabric hose. Eureka Fire Hose Co., Jersey City, N. J. *Essential feature*.—The representation of a Greek cross printed in red interposed between the two words RED and CROSS.
2405. Fabric hose. *Same*. *Essential feature*.—The representation of a red ball interposed between the two words RED and BALL.
4124. Insulating compounds. Standard Underground Cable Co., Pittsburgh. *Essential feature*.—The word STANDARD.
5220. Fabric belting. Eureka Fire Hose Co., Jersey City, N. J. *Essential feature*.—The words EUREKA BELTING encircled by the representation of a belt.

ISSUED JULY 25, 1905.

- 795,280. Rubber heel pad and means for attaching same to boots or shoes. W. C. Hawtin, Leytonstone, England.
- 795,307. Rubber tire fastener for wheels. G. T. Reed, assignor of one third to A. H. Beimschia, both of Baltimore.
- 795,323. Apparatus for electrothermal treatment. D. M. Watson, Portland, Ore.
- 795,412. Pneumatic grain elevator. S. Olson, Chicago.
- 795,536. Bathing apparatus. S. C. Neal, New York city.
- 795,569. Fountain pen. T. P. Ambrose, Cincinnati.
- 795,603. Tongue shield. H. Gardner, assignor of one-half to H. T. Offerding, both of Washington, D. C. [Described in THE INDIA RUBBER WORLD, August 1, 1905—page 376.]
- 795,652. Vehicle tire. F. A. Ruff, Detroit, Mich.
- 795,732. Tire [comprising a plurality of arc shaped plates]. C. D. Purdy, Gladwin, Mich.
- 795,767. Vehicle wheel [with a protective armor of chains]. J. H. Hershberger, Wilkesbarre, Pa.
- 795,796. Hose coupling. C. Gottwald, assignor of one-half to J. A. Diehl, both of Cleveland, Ohio.

Trade Mark.

- 3,693. Insulating materials and covering embodying rubber and used for electric wires and cables. The Eureka Rubber Mfg. Co. of Trenton, N. J. *Essential feature*.—The representation of a star, having the letters of the word EUREKA appearing on its points, and inclosing concentric circles, one of which is formed of dots. Within the outer circle appear the words and a character EUREKA RUBBER INSULATED WIRES & CABLES, and one of the inner circles is shaded by means of parallel lines, all inclosed in an outer circular figure.

ISSUED AUGUST 1, 1905.

- 795,906. Vehicle wheel tire. H. Garner, Nantwich, England.
- 795,960. Toy snap-back ball. J. B. Cook, Toronto, assignor of one-half to T. Cook, Hamilton, Ontario.
- 795,977. Hose coupling. J. Hogan, Escanaba, Mich.
- 796,673. Vehicle tire. [Solid.] F. M. Hilton, J. S. Hilton, and W. W. Hilton, Akron, Ohio.
- 796,114. Electrotherapeutic apparatus. H. E. Currey, Baker City, Oregon.
- 796,132. Hand stamp. W. Laycock, Chicago.
- 796,167. Emergency tire. H. C. Waite, assignor of one eighth to G. H. Atkins and one-fourth to R. F. Mayhew, all of Milwaukee, Wis.
- 796,306. Hose coupling. I. W. Exley, Colville, Wash.
- 796,400. Tire. [Composed of yielding material having a metallic facing]. F. H. Bowly, New York city.

Trade Marks.

177. India-rubber tires, solid and pneumatic and India-rubber cover bandages, repair sheets, plasters, and patches for such tires. Continental Caoutchouc Co., New York city. *Essential feature*.—The representation of a prancing horse at the center of concentric circles, between which appear the letters, character, and abbreviation C. C. & G. P. CO. H.
- 2,411. Fabric hose. Eureka Fire Hose Co., Jersey City, N. J. *Essential feature*.—The words 20TH CENTURY.
- 4,497. Rubber vehicle tires. The Goodyear Tire and Rubber Co., Akron, Ohio. *Essential feature*.—The words THE BROADWAY.
- 4,498. Rubber vehicle tires. *Same*. *Essential feature*.—The word SPEEDWAY.
- 4,499. Rubber vehicle tires. *Same*. *Essential feature*.—The word RELIANCE.
- 4,500. Rubber vehicle tires. *Same*. *Essential feature*.—The word WING.

ISSUED AUGUST 8, 1905.

- 796,599. Hose binder. J. J. McIntyre and H. Bagshaw, Hartford, Conn.
- 796,625. Resilient wheel. R. Bernat, Bordeaux, France.
- 796,664. Tire. [Pneumatic.] A. DeLaski, Weehawken, N. J.
- 796,873. Vehicle wheel [with pneumatic tire]. F. A. Seiberling, Akron, Ohio.
- 796,894. Tire and rim. [Pneumatic.] J. Butler, Altrincham, England.
- 796,930. Rubber tread. P. W. Pratt, Boston.
- 796,955. Hose holder. A. G. Burton, Denver, Colo.

Trade Mark.

855. Fountain pens. Boston Fountain Pen Co., Boston. *Essential feature*.—A representation in perspective of the old Massachusetts state house, with the representation of a fountain pen of enormous size passing through and projecting on both sides of the state house.

ISSUED AUGUST 15, 1905.

- 796,994. Horseshoe [with rubber pads]. J. H. Gay, Milwaukee, Wis.
- 797,035. Method of attaching a rubber body to another body [as in making horseshoe pads]. R. Whitaker, Jr., assignor to the Never-slip Manufacturing Co., both of New Brunswick, N. J.
- 797,136. Life preserver. H. T. Manlove, Evanston, Ill.
- 797,138. Fabric for pneumatic tires. C. L. Marshall, Newark, N. J.
- 797,194. Elastic fabric. J. L. Gilson, assignor to Howard Manufacturing Co., both of Boston.
- 797,200. Pneumatic tire. J. O. Haas, Pottsville, Pa.
- 797,365. Douche. [A compressible bulb of special form, for syringes and the like.] C. W. Meinecke, Jersey City, N. J.
- 797,367. Connection for inflating rotating tires. [Attached to the wheel and worked by it while in motion.] A. L. Olson, Essex, Conn.
- 797,384. Hydrant and hose coupling. W. S. Thurston, Jacksonville, Fla.
- 794,434. Launderable bib. A. Homeyer, Jersey City, N. J.
- 797,447. Bicycle pump. F. B. Merry, assignor of one half to B. Merry, both of Augusta, Ga.

Trade Mark.

- 6,346. Waterproof leather belting. Holyoke Belting Co., Holyoke, Mass. *Essential feature*.—The word SUBMARINE.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each, postpaid.]

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1904.

* Denotes Patents for American Inventions.

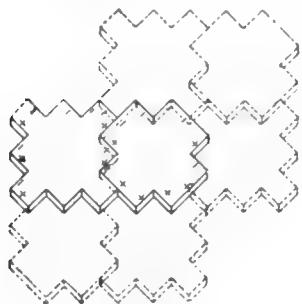
[ABSTRACTED IN THE OFFICIAL JOURNAL, JULY 26, 1905.]

7795 (1904). Treatment of waste ebonite or vulcanized rubber for use in insulating compounds. V. de Karavodine, Paris, France.

7810 (1904). Tire formed of hollow or solid rubber blocks, made with bases which engage under metal frames. F. J. Chary, Paris, France.

7848 (1904). Anti slipping tire tread. M. M. and A. E. Dessau, Merton, Surrey.

7808 (1904). Exercising apparatus. [Dumbbell in two parts pivoted together so as to rock, and provided with rubber cushions to prevent noise.] H. Fairbrother, London.



7945 (1904). Removable boot heel. R. Jelen, Bohemia, Austria.

8006 (1904). Interlocking floor tiling. [Tiles are made with U, V, or other shaped interlocking projections and recesses, occupying preferably a third of their thickness. The tiles may be arranged in patterns and may be molded with different designs on the face or have colored or shaped centers.] A. Whiteway and Charles Macintosh & Co., Ltd., Manchester.

8072 (1904). Golf ball [with padding between the central core and the outer cover made of perforated rubber sheeting vulcanized before being wound on]. P. Cruickshank, Edinburgh.

[ABSTRACTED IN THE OFFICIAL JOURNAL, AUGUST 2, 1905.]

8337 (1904). Revolving heel protector. F. W. Farr and J. Power, Bedford.

8364 (1904). Firemen's helmet with air cushion and means for supplying fresh air. J. H. and A. B. Dräger, Lubeck, Germany.

8442 (1904). Pneumatic tire with special tread. J. C. Graham, London.

8586 (1904). Portable vulcanizer especially for repairing tires. W. Hill, G. Leeson, and County Chemical Co., all of Birmingham.

* 8606 (1904). Horseshoe pad. J. E. Hoffmann, New York.

8697 (1904). Golf ball. J. Crosland and British Insulated and Helsby Cables, Ltd., Warrington.

[ABSTRACTED IN THE OFFICIAL JOURNAL, AUGUST 10, 1905.]

8740 (1904). Adjustable boot heel. E. A. Lancaster and S. Hackett, Stapleford.

8828 (1904). Pneumatic tire with special tread. W. Drury, Swansea, and F. H. Medhurst, London.

8893 (1904). Means of attaching solid rubber tires. I. Guist, Puyrichard, France.

8900 (1904). Pneumatic motor tire with thickened and wire protected tread. A. von Lude, Frankfurt a/M., Germany.

* 8928 (1904). Pneumatic tire protected by removable puncture proof mesh of wire. J. L. Brown and B. King, Rahway, New Jersey.

9047 (1904). Solid rubber tire with means for the prevention of slipping. T. Gare, New Brighton.

9079 (1904). Artificial foot with cushions and other parts of rubber.

9188 (1904). Solid rubber tire for motors [with metal chain fitted in a trough formed in the tread to form a non-skidding wearing surface].

[ABSTRACTED IN THE OFFICIAL JOURNAL, AUGUST 10, 1905.]

9233 (1904). Pneumatic tire for motors [having a cover formed with two treads, side by side, to prevent skidding]. F. Reddaway, Manchester.

9301 (1904). Spray producers [for vines or trees]. A. F. Billa, St. Julien de Medoc, France.

9321 (1904). Valve for pneumatic tire. H. Nemerovsky, Manchester.

9330 (1904). Golf ball. S. de Pont, Manchester.

* 9333 (1904). Vehicle wheel [having an inner and an outer rim with metallic springs or pneumatic rubber sections between]. A. Cousen, Detroit, Michigan.

9400 (1904). Pneumatic tire. H. W. Hepburn, Birkdale.

9432 (1904). Hot water bottle. [A textile bag, lined with sheet asbestos on the side remote from the person, is made with pockets to receive the rubber hot water containers.] R. W. Sampson, Quebec, Canada.

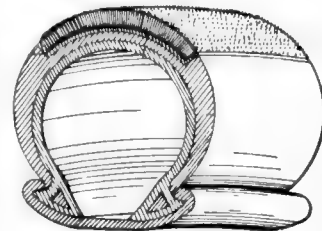
9504 (1904). Artificial leg [comprising parts of sponge rubber and elastic webbing]. R. E. Daniels, Rochdale.

* 9510 (1904). Narrow elastic fabric for suspenders, garters, and the like. H. J. Gaisman, New York.

9607 (1904). Abdominal belt. J. P. Hodgkinson, Manchester.

9631 (1904). Elastic tire [formed of alternate layers of rubber and corrugated metal bands]. A. Lafargue, London.

9644 (1904). Pneumatic tire [protected against slipping by a band detachable or otherwise from which protrudes a series of wires, bristles, or the like, the interstices being partially filled with a suitable composition]. W. Youlden, London.



[ABSTRACTED IN THE OFFICIAL JOURNAL, AUGUST 23, 1905.]

9773 (1904). Golf ball [formed by winding elastic cords which are previously plaited or twisted]. Rollo Appleyard, Silvertown rubber works, London.

* 9931 (1904). Pneumatic tire [the cover being attached to the rim by metal eyelets]. R. H. Croninger, Chicago.

* 10,175 (1904). Vaginal syringe. H. J. Haddan, London. (Meinecke & Co., New York.)

10,179 (1904). Device for cleaning carpets by means of compressed air. J. P. O'Donnell and H. S. Potter, Bromley, Kent.

[ABSTRACTED IN THE OFFICIAL JOURNAL, AUGUST 30, 1905.]

10,274 (1905). Elastic wheel [having a pneumatic tube between the hub and rim portion]. E. F. Piers, Horsham, Sussex.

10,277 (1904). Pneumatic tire [with detachable rubber or leather tread to prevent slipping or puncture]. C. Dutordoir, Lécuse, France.

10,315 (1904). Pneumatic or other elastic tire [having a tread concave in section to prevent slipping]. A. Pearse, London.

10,432 (1904). Pneumatic tire [with cover strengthened by embedded strands of wire or hemp]. J. McConehy, Glasgow.

10,442 (1904). Elastic tire [composed of a backing of hard rubber vulcanized to a more elastic tread]. John Hancock Nunn, London.

PATENTS APPLIED FOR—1905.

Space is given here only to Applications for Patents on Inventions from the United States.

15,826. Philip Watson Pratt, London. Improvements in rubber treads. August 2.

16,016 (1904). W. P. Thompson, London. Improvements relating to rubber goods. (The Traun Rubber Co., New York.) August 4.

16,654 (1904). R. Mulholland, London. Improvement in rubber tire. August 16.

THE FRENCH REPUBLIC.

PATENTS ISSUED (WITH DATES OF APPLICATION).

351,687 (Feb. 22, 1905). F. J. Masson. Anti-skidding device for tires.

351,736 (Feb. 23). Dutrieux Lamelin. Tire protector for anti skidding.

351,761 (Feb. 13). A. E. Fisher. Device for inflating tires.

351,910 (March 1). J. B. L. Eeyssou Lacombe. Protector for horses' feet.

351,924 (March 1). G. P. L. Colon. Elastic product to be used in connection with wheel felloes.

351,932 (March 2). Otto and Riccardson. Elastic tire with tread studded with nails vulcanized in position.

351,648 (Jan. 9). E. Abadie Leotard. Hock-strap with adjustable fastening.

352,020 (March 3). C. E. Lange. Tire inner tube.

352,037 (March 4). Société Consolidated Rubber Tire Co. Tire.

352,067 (March 6). C. L. Marshall. Shoe for pneumatic tire.

352,093 (Feb. 6). A. Parouty. Pneumatic tire.

352,130 (March 6). A. Ménégault. Anti skidding device for pneumatic tires.

352,199 (March 8). E. Sotron. Elastic tired wheel.

352,384 (Feb. 14). H. E. Sykes. Improvement in the weaving of elastic stuffs.

352,216 (March 9). G. Bedos. Leather anti skidding tread for pneumatic tires.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Bobet, Ingenieur-Conseil, 16 avenue de Villiers, Paris, at 50 cents each, post paid.]

VACUUM AND COMPRESSED AIR CLEANING IN NEW YORK.

By Frank L. Blanchard.

AS I left the house one evening I heard the "chug," "chug," "chug" of an engine. At first I thought that firemen were at work putting out a blaze somewhere in the vicinity, but as I had heard no clanging of bells or tooting of whistles, and as the streets contained no crowds, I concluded I must be mistaken.

Nevertheless I asked a policeman on the corner about it, and he informed me that the sounds came from a machine in front of the Academy of Music, in Irving place. So I walked around the block and found a ram like vehicle of the automobile type from which proceeded the sounds I had heard. Running from the car into the theater were two lines of rubber hose. The man in charge told me that the apparatus was engaged in cleaning the walls and carpets of the Academy by the vacuum process.

Being somewhat curious to see how the work was done, I went inside, where I found two men engaged in pushing over the carpet T shaped implements attached to lines of rubber hose. I noticed that after these had been moved back and forth over the floor a few times the colors in the carpet became much brighter.

But what had become of the dust with which the carpet had been saturated a few moments before? It certainly had not been blown up into the air, for my nostrils would have detected its presence immediately even though my eyes did not. When I asked one of the workmen about it he held up the instrument he was using and showed me a narrow slit extending across its entire width. I touched it and found that my fingers were pulled against the orifice with considerable force. Noting my surprise the man said:

"The dust is drawn out of the carpet by the vacuum or suction process and is carried through the rubber hose to receptacles in the car outside. While the pressure is only a few pounds it is sufficiently great to draw the dust not only from the carpet, but also from the surface and crevices of the floor underneath. After we have finished with the carpets, we will attach a flat brush to the hose and go over the side walls and the moldings. For the *bas reliefs* and statuary we use a round brush.

The ease with which the cleaning was done was in marked contrast to the old methods of performing such work. Formerly the floor coverings had to be taken up, separated into convenient widths for handling, and carted off to a steam cleaning establishment. After being run through the renovators the strips were taken back to the theater, sewn together, and again tacked down—all of which consumed much time and cost considerable money.

There are at present several vacuum or compressed air companies in the field engaged in the renovating business, whose work has attracted attention. Among them are the Vacuum Cleaner Co., the Sanitary Compressed Air Vacuum Co., the General Compressed Air House Cleaning Co., and the American Compressed Air Cleaning Co.

Of these the Vacuum Cleaner Co., which is probably the

largest, owns the David T. Kenney patents. William Locke, the engineer of the company, before explaining to me the process employed, showed me what it will do. He sprinkled a quantity of flour over the carpet of his office and rubbed it into nap with his feet. He then pushed the renovator across the floor once or twice and in a moment not a vestige of the flour could be seen.

"You would be surprised," he said, "to see the amount of dust that can be extracted from a rug or carpet by this process. A somewhat skeptical architect was present one day when we cleaned a large rug he had sent us. After we had extracted 18 pounds of dust he was so astonished at the effectiveness of the process that he gave us a contract for the installation of a large plant in a new public building he was erecting.

"Our apparatus consists of an engine or motor, a vacuum machine, and two separators for receiving and separating the dust. We have installed permanent plants in the department stores of R. H. Macy & Co. and John Wanamaker; in the Metropolitan Opera House, Keith's, Proctor's and the Knickerbocker theaters; in the Hotels St. Regis and Breslin; in the National Park Bank and the American Exchange National Bank buildings, and in the private residences of Miss Helen Gould, Charles M. Schwab, Senator W. A. Clark, and others.

"You can readily understand what a job it must be in these large buildings to clean the floors and carpets of dust each day. To do the work a small army of men and women is employed. Sweeping a carpet with a broom removes only a part of the dust, the remainder being left in the body, or in the air from which it settles on the walls, the furniture, and other objects in the room until it is dislodged by the dust rag and sent flying in the air again.

"With a vacuum cleaning plant the work can be performed in half the time by only a few employés. The dust is absolutely removed from every object in the apartment and the air is left entirely free of the substance. The vacuum rubber hose used is non collapsible, being supported by steel wire construction, and yet is perfectly flexible in handling. In a permanent plant outlets from the stationary piping are located at convenient places on each floor to which the rubber hose, which has a diameter of 1½ inches, may readily be attached when desired. The separator tanks that receive the dust through the hose consist of two upright cylinders. The first separates from the air current the dust in dry deposit; while the second completes the process of separation by passing the air current through a column of water in which the remaining matter is held in liquid suspension."

The Sanitary Compressed Air Vacuum Co., which has an office in the "Flatiron" building, employs a system that combines the vacuum and compressed air processes under what are known as the Lotz patents. John D. Elwell, the general manager of the company, in outlining the differences between the vacuum and the compressed air-vacuum methods of cleaning, said:



MODERN CARPET CLEANING.

[By the Vacuum Cleaner Co.'s process.]

"Our process requires the use of more power because the slot in our carpet sweeper is much wider and the rubber hose of a larger diameter. While from 8 to 20 horse-power is used, according to the size of the plant, in the vacuum system, in ours, which we call the inrush, from 8 to 40 is required. A vacuum is like a rope, good to pull with, but no good to push with. We do the pushing part with compressed air. That is, we use it to dislodge the dust from the carpet and the floor underneath, and employ the vacuum to remove it. Two lines of hose are connected with the sweeper. One contains the compressed air, and the other being attached to the vacuum machine serves as a conduit for removing the dust.

"The effectiveness of the system is easily demonstrated. One of our twelve inch sweepers in $1\frac{1}{2}$ hours removed 42 pints or 21 quarts of dust from 560 yards of carpet. It would require 14 men working with brooms to get this amount of dust out of the carpet and when they were through nearly half of it would be floating in the air. A 12 inch vacuum sweeper has a cleaning capacity of 400 yards of carpet an hour, or, in actual practice, from 10 to 15 large rooms.

"It is extremely difficult to remove the dust from the carved ornaments of the decorations in some of New York's palaces. It is a very expensive process, too. Whenever the ceiling and walls of the parlor of the Vanderbilt house at Fifty-eighth street and Fifth avenue were systematically dusted, it was formerly necessary to build a scaffold and have the dust carefully removed by soft brushes, at an average cost of \$300. When we were called on to do the work we completed the task at a total cost of \$25.

"Our process of cleaning is in use in the Chamber of Commerce, W. & J. Sloane's store, the Vanderbilt, Huntington, and Sterns houses and several theaters, including the Academy of Music."

When the Hotel Astor was erected two years ago, the General Compressed Air House Cleaning Co., of St. Louis, installed one of its plants in the building. This company owns the Thurman patents, which are regarded by some engineers as among the best for pneumatic cleaning yet taken out. Under the system employed by the company compressed air is used to lift the dust out of the carpet instead of a vacuum. The piping of permanent plants is from $\frac{1}{2}$ to 1 inch in diameter, and the flexible rubber hose of a corresponding size. The sweeper is T shaped and much resembles that employed in the vacuum process. The dust instead of being carried off through a pipe to the basement is collected in receptacles on each floor where the cleaning is being done. The engineer and housekeeper of the Hotel Astor express themselves as being much pleased with the system.

At the Hotel Victoria still another system is in use—that of the American Compressed Air Cleaning Co., of Milwaukee. Compressed air is delivered to the several floors of the hotel in steel pipes, where connection is made with a rubber hose as in all the other methods of pneumatic cleaning. The sweeper is a nickel plated box about 14 inches long, 10 inches wide, and 5 inches deep. In the bottom is a very narrow slit through which the compressed air is driven into the carpet. The dust being forced out rises into a hood spread

over the top of the box and then falls into the box itself from whence it is removed and placed in bags. As condensed air naturally contains more moisture than ordinary air, and as it would in that condition make the carpet damp and prevent the dust from being forced out of it, it is first passed through several large tanks and nearly all of the moisture removed, before being used. In order that it may be made still dryer the air is sometimes passed through a portable drying tank on the floor where the work is being performed. A pressure of 85 pounds is used. The engineer of the Victoria, Mr. G. McDoal, informed me that although the hall carpets had been swept every day for several months before the new cleaning apparatus was installed, nevertheless the first night the new system was used, three ash cans filled with dust was removed from them.

A list of the buildings equipped with permanent apparatus for cleaning by the various systems here described would fill several columns of this paper, besides which it is to be considered that a larger number of buildings are regularly served by the cleaning companies by means of portable apparatus. The White House at Washington is equipped with a permanent service, as are the residences of many wealthy citizens in New York and other principal cities, together with some of the largest hotels, banks, office buildings, public buildings, churches, theaters, railroad terminals, and even steamships. Nor is the use of these methods for cleaning confined to the United States. The different systems are coming into wide use in Europe. For instance, in Buckingham Palace, the home of King Edward, has been established a complete vacuum service which is in daily use.

* * *

At the second annual meeting of the British Vacuum Cleaner Co., Limited, in London, in August, satisfactory reports were presented in regard to progress made by the company in introducing their system of cleaning, which is the same as used by the Vacuum Cleaner Co. in the United States. A dividend of 6 per cent. for the year was declared. The company hold shares in a number of subsidiary companies, and at the meeting referred to dividends were reported to have been declared dur-



PORTABLE PLANT OF THE VACUUM CLEANER CO.

ing the year by some of the subsidiary companies as follows:

Scottish Vacuum Cleaner Co.....	17½%
Lancashire and Central Counties Vacuum Cleaner Co.....	10%
Midland Vacuum Cleaner Co.....	5%
Southern Counties Vacuum Cleaner Co (<i>interim</i>).....	5%

[A further ½ per cent. dividend expected.]

North Eastern Vacuum Cleaner Co.	No report.
German company.....	10%
Austrian company.....	No distribution.
Buenos Aires company.....	6%

An interesting new application of the principle of cleaning by vacuum was brought up at the meeting of the British Vacuum Cleaner Co., in the shape of an apparatus patented by the company's manager (Mr. H. C. Booth, A. M. I. C. E.), designed to lessen the danger of explosion in coal mines by reducing the volume of explosive dust in them. A royal commission had reported that the occurrence of such dust had been the cause of very many explosions. The North Eastern Vacuum Cleaner Co. were about to put down a plant under Mr. Booth's patent in a mine, the owner of which had stated that if it proved successful he would at once install the device in all his plants; besides, if it proved successful, all the other companies would at once take up the invention. Another application mentioned was a device for cleaning flues and steam boilers, and plans were under way for its use in connection with blast furnaces and other like work.

OBITUARY.

JOSEPH WEST GREEN.

THE late Joseph W. Green, of whom a brief obituary note appeared in the last INDIA RUBBER WORLD, was born August 23, 1848, at Marblehead, Massachusetts, being the son of Joseph West and Abbie Girdler Green. He received but little schooling, being obliged to begin work at 12 years, and as a boy taking responsibilities that seldom come to one so young. At the age of 18 he entered the employment of Nichols & Farnsworth, dealers in shoe findings, in Boston, and remained with the house for 12 years, during which time he came to make a specialty of selling elastic shoe gorings.



In this connection he attracted the attention of the late Edmund H. Sawyer, of Easthampton, Mass., and when the management of the Glendale Elastic Fabrics Co. of that town devolved upon the latter, he sent for Mr. Green. He went to Easthampton in 1878, at the age of 30 years, becoming treasurer and general manager of the company, after which he was al-

ways in the immediate direction of its affairs. Under his management the company prospered and its business grew in volume and importance. Not only were important additions made to the local plant from time to time, but a year or two ago a large mill in the same industry at Providence, Rhode Island, was

bought by the Glendale company and since successfully operated by it.

While always devoted to the success of this industry and interested in the welfare of its employes, Mr. Green found time to take an active part in the life of Easthampton apart from his direct business interests. He was influential in town affairs, and at the time of his death was chairman of the board of water commissioners. He was a director of the First National Bank of Easthampton, trustee of the Easthampton Savings Bank, and director of the Nashawannock Manufacturing Co. He was a member of Ionic Lodge of Freemasons, a member of Pascom-nuck Club, the leading social club in the town, and secretary of the Nonotuck Club, an association of manufacturers formed to provide recreation primarily for those of the townspeople who were employed in the mills. He was likewise a trustee of the public library.

Mr. Green had a great talent for music, which he cultivated from his youth. In Boston he had been a member of the famous Apollo and Orpheus musical clubs and was leader of the Sunday school choir in Trinity church and an intimate friend of the late Bishop Phillips Brooks, who had a marked influence in forming the character of the younger man. At Easthampton at various times Mr. Green led the choir and played the organ in three different churches, and he led the Choral Union for several seasons.

Mr. Green was married in Boston, September 30, 1889, to Mrs. James H. C. Richmond, of Shullsburg, Wisconsin. Mrs. Green survives him, and he leaves four stepsons and a step-daughter, including James H. C. Richmond, of New York, and Clifford Richmond, of Easthampton, who have long been connected with the Glendale company, and Mrs. William L. Pitcher, whose husband is connected with the Easthampton Rubber Thread Co.

Mr. Green had been physically weak for some time, and in the torrid heat of July last made business trips that were too great a strain. The result was a series of severe hemorrhages, and the end came shortly after midnight on August 28. The funeral occurred on August 30. After private services at the late residence, the remains were escorted to Payson church by Ionic Lodge and the whole body of the Glendale company's employes, after which the pastors of the various churches in town joined in a public service. Many of Mr. Green's out of town business associates were present, and all the places of business with which he been connected were closed.

The employes of the Glendale mill have taken steps to have placed upon the wall a bronze tablet in memory of Mr. Green, not only as treasurer and manager of the mill, but their "fellow workman."

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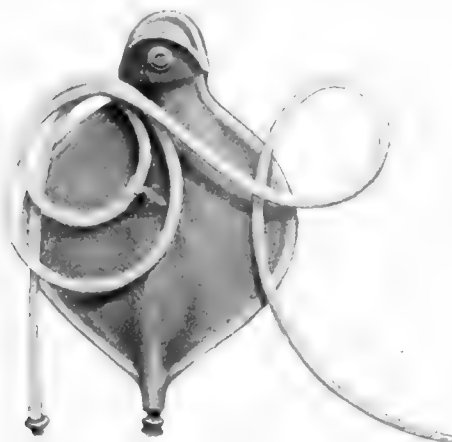
JOHN SPENCER TURNER, director and vice president of the United States Cotton Duck Corporation and head of the J. Spencer Turner Co., of New York, died of apoplexy on September 19 at Caldwell, New Jersey, in his seventy-fifth year. He was one of the best known men in the cotton duck trade and was instrumental in organizing the so called "cotton duck trust." His home was in Brooklyn.

JAPAN.—The Fujikura Insulated Wire and Rubber Co. (Tokio, Japan) advise THE INDIA RUBBER WORLD that their business during the first half of this year was very good, their sales of weatherproof wire amounting in value to 90,000 yen [= \$43,920], and sales of rubber insulated wire to 160,000 yen [= \$79,680]. They hoped to do a still larger business during the latter half of the year.

NEW GOODS AND SPECIALTIES IN RUBBER.

GOODRICH SURGEONS' SYRINGE OUTFIT.

IN the line of syringes the most distinctive novelty placed on the market for some time past is comprised in the Surgeons' Syringe Outfit, of which an illustration is presented herewith. This is made of pure gum, with reinforced strip up the center. The stock and construction admit



of its being folded up into a very small space, rendering it not only serviceable but convenient to carry. The outfit includes, in addition to the bag, 6 feet of pure gum tubing, with connections and shut-off. The bag is made in two quart, three quart, and four quart sizes, and is altogether a strictly high grade article. [The B. F. Goodrich Co., Akron, Ohio.]

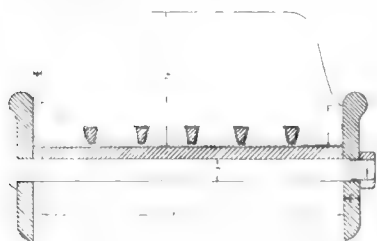
DR. TULLAR'S VAGINAL SPRAY.

THE article illustrated herewith being made entirely of hard and soft rubber, of high quality and finish, and no metal being used in its construction, there is nothing about it to corrode. The hollow cup shaped spray differs from any other, and possesses distinctive advantages, as does the oval shaped adjustable rubber shield or vaginal closing plug. The discharge pipe is of moderate size, with no hurtful sharp edged outlets. The bulb, being pear shaped, with a soft neck, holds the pipe less rigidly than in the case of many other syringes, and the capacity of the Tullar syringe—9 ounces—is such that one filling is enough for a safe, perfect, and efficient douche. These various advantages will serve to explain the great popularity which the Tullar syringe has attained. [Seamless Rubber Co., New Haven, Connecticut.]



A NEW KELLY-SPRINGFIELD TIRE FEATURE.

A NEW feature in the way of retaining rings for solid rubber vehicle tires is shown in the accompanying illustration. One great trouble with tires of this type for heavy work, as on commercial wagons, has always been with the fastenings. In the present case steel V shaped retaining rings, wrapped spirally with canvas to which the rubber vulcanizes, thus giving a hold complete



around the ring, are inserted in the base of the rubber, and,

bearing directly on the band of the wheel, eliminate eternal friction. To make the fastening means still more secure, the rubber section is made somewhat wider than the steel base or rim, and compressed by the side flanges which are drawn up by bolts. Owing to the V shape of the retaining rings the tire is then practically dovetailed to the wheel, and thus held very securely. The tire is made in width up to 7 inches. [Consolidated Rubber Tire Co., No. 1784 Broadway, New York.]

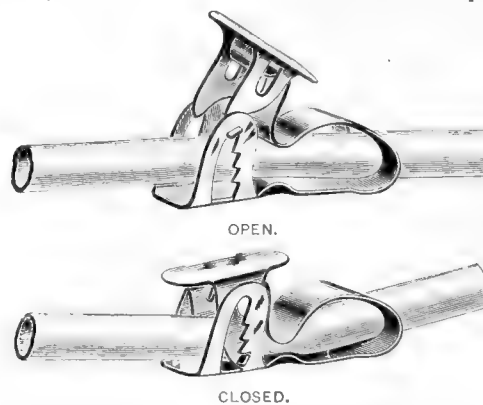
TROUSER ROBE FOR MOTORISTS.

IN these pages last month appeared a description of a new trouser robe for motorists, made to buckle around the waist and ankles and designed to keep off the wind, in addition to its other advantages. An illustration of this robe was given, but a better idea of the merit of the article may be gained from another illustration, which is presented herewith, showing how the garment appears when in use. This is made of various materials, at different prices, ranging from plain rubber face, with shepherd plaid back, to fine green cloth, face woven whipcord back, rubber interlined. [L. C. Chase & Co., Boston and New York.]



AN ADJUSTABLE FOUNTAIN SYRINGE SHUT-OFF.

A SUITABLE "shut-off" is essential to the satisfactory use of a fountain syringe—one that not only will do the work required of it in regulating the flow of water through the tube, but is easily worked. Such a device is that recently patented by Elbert O. Jerals, of which two illustrations are shown herewith, showing the Shut-off open and closed. It is exceedingly simple in construction, the shut-off proper being stamped from a single piece of high nickel plate, while the lever, by means of which the pressure is controlled, is made from another. In other words, the whole device consists of but two pieces, and

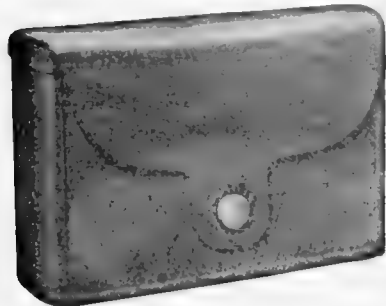


may readily be worked with one hand. This shut-off, although introduced only recently, is understood to have been adopted

already by leading manufacturers of druggists' sundries, and by a number of assemblers of such goods, besides having received the approval of many physicians, nurses, and others competent to express an opinion. These goods are made in two styles—No. 1, rapid flow; and No. 2, regular flow. [The Jeralds & Townsend Manufacturing Co., Stamford, Connecticut.]

THE "HANDY" TOBACCO POUCH.

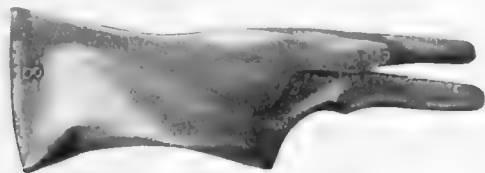
A NOVELTY in the line of tobacco pouches is shown herewith. Instead of being circular in shape, as has been the case with tobacco pouches hitherto, it is rectangular, the reason being that it is intended especially as a plug tobacco container. It is made of a fine quality of red rubber stock—in one size— $3\frac{1}{4} \times 2\frac{1}{2} \times \frac{5}{8}$ inch. [The B. F.



Goodrich Co., Akron, Ohio.]

GOODRICH THREE FINGER GLOVE.

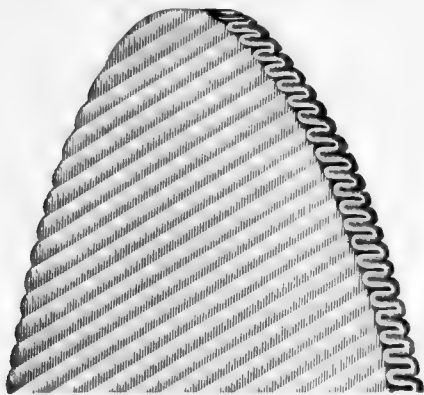
THIS is an article made for surgeons' use, to cover the thumb and index and middle fingers, and has been very much ap-



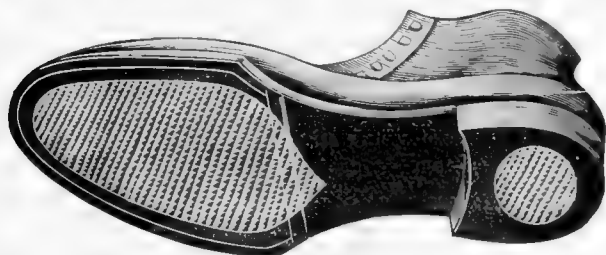
preciated for use in certain operations. It is made of pure gum, in sizes No. 6 to No. 10 inclusive, seamless, and smooth finish, listed at \$12 per dozen pairs. [The B. F. Goodrich Co., Akron, Ohio.]

FOSTER CRIMPED FIBER SOLE.

TWO illustrations presented herewith relate to the Foster plaited or crimped fiber sole, which has recently been patented.



The first of the cuts illustrates the construction of the plug material and the second its insertion into the sole of the golf, tennis, yachting, or other shoe. From the first of the cuts it will be seen how each and every wearing thread is bent in such a manner as to give the wear on each end of the thread.



The advantages of molding this special fiber so constructed and saturated with rubber into the soles of boots and shoes are that

greater strength, greater flexibility, and greater elasticity are given to the soles, with less liability to slip on dry grass or wet sidewalks; besides, they wear longer and give a velvet tread while in use. [Foster Rubber Co., Boston.]

THE RETURN OF MR. FLINT.

MR. CHARLES R. FLINT arrived at home in New York no September 5, after an absence of several months in Europe, during which time he was mentioned in several cabled reports as being in Russia. He was received in audience by the Czar on August 25, and returns impressed with the prospects of an improved industrial future for Russia. "I feel confident," Mr. Flint said, "now that peace is assured, that Russia is about to enter upon a period of great industrial activity, and I am satisfied that her policy is to encourage Americans to take part in the development of her enormous natural resources, comparable with those of the United States. Russia will undoubtedly reduce the duties on American products, which will probably be the first step in that direction." This statement was made by Mr. Flint in an interview with him printed in the New York newspapers of September 6, several days after which M. Witte, one of the Russian peace plenipotentiaries, called upon President Roosevelt and formally notified him that the Czar had ordered a removal of the special duties on imports from the United States imposed in Russia.—Before the departure of M. Witte for his home the Russian plenipotentiaries



Charles R. Flint.

Gen. Horace Porter.

"Have you got an indemnity about you?" asked Gen. Porter.

CARTOON BY C. DE FORNARO IN NEW YORK WORLD.

were entertained at dinner at the Metropolitan Club in New York by Colonel George Harvey, editor of *Harper's Weekly*. Mr. Flint was one of the 80 guests, and figured in a series of cartoons suggested by the dinner to Charles de Fornaro, one of the artists of the New York *World*, and which appeared in the issue of that paper for September 10. The accompanying cut indicates how Mr. Flint appeared to the cartoonist.

BALATA.—The government of Venezuela having taken measures to prevent the reckless destruction of the Balata trees in that country, *Le Caoutchouc et la Gutta-Percha* (Paris) doubts whether any such prohibition will measurably prevent the practices complained of; at least the spoliation of the forests, it thinks, will at most only be retarded.

RUBBER INTERESTS IN EUROPE.

STRIKE OF RUBBER WORKERS AT LEIPZIG.

THE strike of rubber workers at Leipzig, after some weeks, was still in progress at last accounts. Beginning with the hard rubber workers, it had extended until a number of workers in soft rubber were included. While the strikers at their meetings claimed to be holding their own, the employers, on the other hand, claimed to be able to maintain their determination not to grant the advance in wages asked for, on the ground that in view of the high prices of raw materials the payment of higher wages was absolutely impossible. The manufacturers had refused to enter into any discussion of the other demands of the labor union, on the ground that their acceptance would mean loss of control of the factories by their owners. One report states that the manufacturers have stocks of goods of such dimensions as to render it unnecessary to produce any more for a considerable time to come, and that even if orders should go unfilled the manufacturers would shed few tears, on account of the small profits realizable on rubber goods at this time.

DUNLOP PNEUMATIC TYRE CO., LIMITED.

THE directors of this company, in calling an extraordinary meeting of the shareholders in London for September 14, stated that they wished to lay before them the position of the company in its manufacturing aspect. The last annual report, issued in November last, stated that the number of tires manufactured in the company's works during the year had reached the total of 1,556,220, which "represents an enormous increase as compared with any previous year and far surpasses the output of any firm in the world." The position of the company now, it is asserted, is that this large output has not only been maintained but greatly exceeded during the current season, and that the company has been obliged to allow a large number of orders in the motor tire department to pass unexecuted. The directors now desire to erect another completely equipped factory as speedily as possible, and the meeting was called for the consideration of this point and its bearing upon the proposed reorganization of the company. The royalties which the company previously received lapsed with the patents, in 1904, and the price of tires for the current season was substantially reduced. Yet the chairman stated at the meeting that their dividend promised to be larger this year than last year. The plan outlined for securing the additional factory—to cost £50,000—is to suspend for one year the diversion of the customary amount to the sinking fund maintained to retire the company's debentures at their maturity. It was reported that a large number of assents had been secured to the plan of reorganization, but definite action was postponed until the sentiment of the various classes of shareholders could be more clearly ascertained. Chairman DuCros said that in addition to their larger tire production than ever before, their factories had made this year 400,000 rims and more than 2,000,000 valves. The company had large hopes in respect of the demand for motor 'bus tires.

GREAT BRITAIN.

IN the bankruptcy court at St. Albans, England, on August 22, A. Vaughan Stevens, of Harpenden, appeared for his public examination, a report of which at length appears in *The Herts Advertiser*. His statement disclosed liabilities of £3417 9s. and no assets. Nine years ago he became director of Bourne Brothers & Co., Limited, owning six tenths of their capital of £10,000. Subsequently he conducted business as Bourne Brothers & Co., trustee for the limited company, and lately he

had been rendering services, without specified compensation, for A. C. Baber, sole owner of the capital of the reorganized Bourne Brothers & Co., Limited, and trading as A. C. Baber & Co., rubber manufacturers, at Mansion House Chambers, E. C., London. Mr. Stevens attributed his insolvency to the failure of Messrs. Bourne, Limited. For one thing, he had endorsed their bills to John Lang, a London rubber merchant, and Mr. Lang was one of the creditors who appeared in the proceedings against Stevens. The latter testified that the business of the Bourne company was chiefly making rings and screw stoppers for bottles, of rubber and another material, under a secret not patented and known only to Stevens.

FRANCE.

AT St. Claude, in the department of the Jura, a new works is being erected for the exclusive manufacture of hard rubber, by a joint stock company, organized in January of the present year, with a capital of 600,000 francs [= \$115,800]. Hermann Wezel, of Grosswenden, Saxony, was elected managing director, and the buildings as well as the technical installation are being constructed in conformity with his specifications. The firm expect to commence operations by January next.

GERMANY.

THE board of Vereinigte Gummiwaren-Fabriken Harburg-Wien have decided to make a motion, at the general meeting which is to be called for October 28, for declaring a dividend of 12½ per cent., the same amount as last year. This comparatively satisfactory result, says *Gummi-Zeitung*, has been obtained both by the increase in sales and by the participation of the company in the Internationale Galalith-Gesellschaft Hoff & Co., which is showing a most satisfactory development. A full report on the company's interest in Galalith appeared in THE INDIA RUBBER WORLD February 1, 1905—page 155.

RUBBER BOTTLE STOPPERS IN GERMANY.

[FROM "GUMMI ZEITUNG," SEPTEMBER 8.]

A NEW movement against rubber stoppers for bottles has been inaugurated by the manufacturers of cork stoppers, who, after having prepared their campaign, are now evidently advancing to the fight. They are, in fact, distributing circulars, in which they refer to the "discovery" of Dr. Pond concerning the "infallibly mortal effects of the use of rubber bottle stoppers," and they make the following statement:

"The time has apparently come when the authorities involved in the matter, such as the police departments and especially the Imperial department of health of the German empire, must enter upon a thorough consideration of the question, whether the use of such patented bottle stoppers as are deleterious to health shall in future continue to be allowed. Government tests appear to be a preëminent requirement." Manufacturers of rubber stoppers will undoubtedly have no objection to truly scientific tests, as they would only serve to prove the absolute fallacy of Dr. Pond's contentions.

If the cork stopper manufacturers believe, however, that the "prohibition" of the use of red rubber discs for bottle stoppers would tend to remove all patented rubber stoppers in general from the market, they commit a very serious error. The result would simply be that common sulphur would be used for vulcanizing, instead of golden sulphuret of antimony, and that grey or black rubber discs would be supplied for bottle stoppers. The red color of these discs is, in fact, merely a matter of style or taste, and their abolition would leave the cork stopper manufacturers no ground to stand on in their stubborn agitation against rubber stoppers. It would, in fact, be impossible to abolish the use of rubber stoppers, as they occupy by this time too prominent a place among our daily necessities.

NEWS OF THE AMERICAN RUBBER TRADE.

THE "GOODYEAR GLOVE" FACTORY ENLARGED.

THE Goodyear's India Rubber Glove Manufacturing Co. (Naugatuck, Connecticut) are building an addition to their druggists' sundries department, which Superintendent F. F. Schaffer states will enable the company to double their present output in this line. Early in August the company began using a new addition to their shoe mill, that will permit the production of 10,000 pairs more per day.

THE FIRESTONE TIRE AND RUBBER CO.—ADDITIONS.

IMPORTANT additions are being made to the plant of the Firestone Tire and Rubber Co. (Akron, Ohio), to accommodate two projected new features in their business. The company are about to take on the manufacture of pneumatic motor tires, having acquired a patent granted to Theron R. Palmer, whose tire has been considerably improved since the granting of the patent. The company also plan entering upon the manufacture of mechanical rubber goods. The floor space of the factory will be doubled in size by the new addition, and the present capacity practically doubled. One building, to be one story high and 40×100 feet, will be used as a warehouse. Another, to be four stories 90×100 feet, will be used for various manufacturing processes.

THE B. F. GOODRICH CO.—SHOE DEPARTMENT.

THE manufacture of rubber boots and shoes was begun regularly by The B. F. Goodrich Co. (Akron) on September 18. The work was on a small scale, and devoted to the production of samples, but it was intended to begin on a much larger scale about October 1. The machinery was practically all installed and a number of trained workmen were in place as instructors in the various processes of making rubber footwear. Superintendent E. C. Shaw informed the representative of THE INDIA RUBBER WORLD that the capacity of the boot and shoe department as now constituted would be 5000 or 6000 pairs a day.

THE FISK RUBBER CO.

THE company above named have lately awarded a contract for a large addition to their rubber tire factory at Chicopee Falls, Massachusetts, to cost in the neighborhood of \$30,000. It will be a three story brick building, 45 × 112 feet, with an "L" construction forming an additional building 40 feet square. One floor of the new building will be used for storage for rubber fabrics and the others for the manufacture of bicycle tires only, which will leave the main factory devoted solely to the manufacture of the Fisk mechanically fastened automobile tire. Kirkham & Parlett, of Springfield, are architects of the new building.

NEW HAMPSHIRE'S FIRST RUBBER STORE.

THE invitations which were issued for the opening of the store of the Granite State Rubber Co. (Manchester, New Hampshire), on September 9, were accepted by a large number of people, the store being crowded until late in the evening. Not only is it the first rubber goods store to be opened in the state, but the opening was advertised in an attractive way, the officers of the company having become experienced, through their management of the four "Crocker rubber stores" elsewhere, in gaining the attention of the public. A fine orchestra furnished a concert in the afternoon and another in the evening. Twenty-five rubber plants were offered as prizes to the ladies attending the opening who should guess nearest the

amount of cash sales for that day. Besides, souvenirs were given to everybody who visited the store. Mr. Isaac Crocker, the treasurer of the new company, has been identified with the rubber trade in New England for 35 years. Mr. H. L. Cropsey, the president, has been connected for a long time with the Hope Rubber Co., the Providence, Rhode Island, house in the Crocker chain of rubber stores.

THE DIAMOND RUBBER CO.'S CONFERENCE.

A CONFERENCE of the officers and branch managers of The Diamond Rubber Co. (Akron, Ohio) on September 8 and 9. The object of the meeting was the same as that held every year—to plan the company's business campaign for the coming twelve months. Good reports were made from every quarter, giving the company reason to be satisfied with the outlook. One feature of interest is the increasing use of automobiles, and consequently of pneumatic tires, in the South, where machines can be used all year. It is understood that no marked change is to be made in the company's styles of pneumatic tires. Branch managers were present from New York, Boston, Philadelphia, Buffalo, Cleveland, Detroit, Minneapolis, Chicago, St. Louis, Atlanta, and San Francisco.

THE SWEET TIRE AND RUBBER CO.

AT the annual meeting at Batavia, New York, on August 23, the following directors were elected: John H. Ward, Ashton W. Caney, and George E. Perrin, all of Batavia, and A. A. Smith and Lewis Benedict, of Attica, N. Y. The only change from last year is that Mr. Smith succeeds John M. Sweet. The directors reelected the officers, as follows: John H. Ward, president; A. W. Caney, vice president; George E. Perrin, secretary and treasurer.

BAILEY'S "WON'T SLIP" TIRES.

C. J. BAILEY & CO. (Boston) have issued a license for the manufacture of their "Won't Slip" motor tire treads to Morgan & Wright, in addition to the six important rubber factories already making these treads under license. It is stated that the demand for these treads has become so great that the manufacturers are unable to supply it. Messrs. Bailey & Co. have received a letter from F. R. Tibbitts, of Boston, stating that he has used a set of "Won't Slip" treads for over a year, in which time his 28 HP. motor, weighing 2500 pounds, has run over 9000 miles. One tread having been slightly punctured, he is sending it for repairs, with the idea that it will be good for another 1000 or 2000 miles running.

RUBBER AT A CANADIAN EXHIBITION.

THE rubber industry of Ontario was very thoroughly represented at the Canadian National Exhibition, at Toronto, which closed during the first week in September. The number of exhibitors was greater than at any time in the past, and the number and variety of exhibits correspondingly greater. Displays were made by the Gutta-Percha and Rubber Manufacturing Co. of Toronto, Limited, the Dunlop Tire Co., Limited, and the Ontario Rubber Co., of Toronto; the Merchants' Rubber Co., Limited, of Berlin, and the Berlin Rubber Manufacturing Co., Limited.

THE COLONIAL TIRE AND RUBBER CO.

[See THE INDIA RUBBER WORLD, March 1, 1903—page 27.]

THIS company was incorporated September 2, 1905, under the laws of Ohio, with headquarters at Akron, to succeed the Delaware corporation under the same name, of 1902. The in-

corporators are William A. Byrider, John Byrider, James A. Swinehart, P. D. Hall, and C. T. Grant—all of Akron. The capital is \$6000, instead of \$60,000, as under the old charter. This company is a holding company, owning the foreign patents on the Swinehart "side wire" tire, made in the United States under royalty by The B. F. Goodrich Co., The Diamond Rubber Co., and the Firestone Tire and Rubber Co., and in Europe by a number of leading makers, from whom the Colonial company derive royalties.

ALLING RUBBER STORES SYNDICATE.

UNDER the name The Alling Rubber Co., a rubber goods store is to be opened about October 1 at No. 261 Main street, Springfield, Massachusetts, in charge of Mr. F. C. Hubbell, who has been connected with the stores of The Alling Rubber Co. at Bridgeport and Hartford, Connecticut, for two years past.



NOYES E. ALLING.

This makes the tenth rubber goods store conducted by the Alling interests, the first nine being located in Connecticut. The beginning of this interesting and unique chain of stores dates from September, 1890, when Noyes E. Alling, who for several years had been a traveling salesman in the rubber clothing line, established a store at Norwich, Connecticut, for

the sale of rubber goods generally. In the next year his brother, W. S. Alling, became a partner in this store, and in May, 1895, he purchased the entire interest in the store. Later that year Noyes E. Alling acquired and consolidated two rubber goods stores at Bridgeport and the business has since been conducted under the name The Alling Rubber Co., a corporation, which has since opened several branch stores. It may be of interest to give the whole list of the Alling stores, with the ownership and date of establishment:

Alling Rubber Co. (W. S. Alling, proprietor).—Norwich, September 1, 1890; New London, April 1, 1904.

The Alling Rubber Co. (N. E. Alling, president; Arthur E. Alling, secretary and treasurer).—Bridgeport, November 1, 1895; New Haven, April 1, 1890 (acquired later by the Alling company); Meriden, June 1, 1903; Waterbury, June 1, 1905.

The Stamford Rubber Co. (N. E. Alling, president, C. E. Alling, secretary and treasurer).—Stamford, April 1, 1889.

Alling Rubber Co. (Copartnership between N. E. Alling and Amos P. Mitchell).—Hartford, November 1, 1902; New Britain, April 1, 1904, Springfield (Massachusetts), October 1, 1905.

N. E. Alling, whose headquarters are at the Bridgeport store, is the buyer of the larger portion of the goods for all of the above named stores. Each of the houses has a local manager who has been trained in this chain of stores. In addition to his interest in rubber, Mr. N. E. Alling, in February, 1899, became connected with a furniture and house furnishing goods company in Bridgeport, and since that date has served as secretary and treasurer of the same.

NEW YORK STOCK EXCHANGE TRANSACTIONS. UNITED States Rubber Co.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Aug. 26	7,700	53 $\frac{5}{8}$	51 $\frac{3}{4}$	400	110 $\frac{5}{8}$	110
Week ending Sept. 2	4,050	52 $\frac{1}{8}$	50	1,150	110 $\frac{7}{8}$	108 $\frac{1}{4}$
Week ending Sept. 9	5,310	51	49 $\frac{1}{4}$	700	109	108 $\frac{1}{8}$
Week ending Sept. 16	28,510	57	47 $\frac{3}{4}$	4,750	113 $\frac{7}{8}$	108
Week ending Sept. 23	25,070	58 $\frac{1}{8}$	55 $\frac{3}{4}$	2,800	114 $\frac{3}{8}$	112

RUBBER Goods Manufacturing Co.:

DATES	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Aug. 26	300	35	34 $\frac{7}{8}$	—	—	—
Week ending Sept. 2	400	34 $\frac{5}{8}$	34	100	105 $\frac{1}{2}$	105 $\frac{1}{2}$
Week ending Sept. 9	200	34 $\frac{1}{4}$	34	—	—	—
Week ending Sept. 16	800	34 $\frac{3}{8}$	34	—	—	—
Week ending Sept. 23	3,400	35 $\frac{3}{4}$	34 $\frac{1}{2}$	200	104	104

UNITED STATES RUBBER CO.

It is reported that the new issues of this company will be listed on the New York stock exchange shortly. There has been trading recently in the "outside market" in the second preferred shares "when issued," at 79 @ 80. According to gossip in the trade there is a considerable expectation that dividends on the common stock will be resumed at the regular monthly meeting of directors in October. There are no known facts, however, to support this assumption. The last dividend paid on the common shares was on April 30, 1900.

THE FAULTLESS RUBBER CO. (AKRON, OHIO.)

THE Faultless Rubber Co. are constructing some important additions to their factory, and the new buildings are of fire-proof construction, with a view to the ultimate conversion of the whole plant to buildings of this class. There is now under way a three story building, to be made of tile and concrete, and it is planned to follow this with two similar buildings, all of which it is hoped to complete within a few months. The company need additional room badly, and it is stated that the additions referred to will double the capacity of the factory.

SUED BY THE STANDARD OIL CO.

SUIT was filed at Akron, Ohio, on August 11, by the Standard Oil Co., against The Lilly Rubber Manufacturing Co. and the individual shareholders therein, for \$259.61 for naphtha supplied to the defendants' factory. The case has not yet come to trial, but several of the defendants have filed answers, and among them Irvin R. Benner, a shareholder, who alleges that the plaintiff, the Standard Oil Co., is not a corporation, but a "trust," carrying on business in the state of Ohio in violation of the anti-trust laws of Ohio and of the United States, and therefore not entitled to any standing in court.

VENTILATION AND HEATING COMBINED.

EXPERIENCE has clearly demonstrated that in this climate no system of ventilation can be successfully operated by itself and independently of the method of heating that may be adopted. It is, in fact, a vital element of success that the two systems be most intimately combined, for they are clearly interdependent, and when properly applied are so interwoven in their operation and results that disunion is certain to bring about failure. For the purpose of ventilation, the fan was first applied upon a practical scale about the middle of this century, but only to a limited extent, and it was not until the fan and the steam heater in marketable form were introduced by B. F. Sturtevant that the so-called "Blower sys-

tem" became a reality. The system of which these two elements are the most important factors, as originally installed by this house, has naturally been known as "The Sturtevant System." This system is at once practical, successful, and economical; for, air being the natural conveyor of heat, it may, when properly warmed and supplied, perform the double office of heating and ventilating. As applied, the Sturtevant system forces the air into the apartment by the pressure or plenum method. When a fan is arranged to exhaust or withdraw the air from an enclosed space, the term vacuum, or exhaust method, is almost universally applied.

FIRE HOSE IN PHILADELPHIA THEATERS.

THE INDIA RUBBER WORLD'S Philadelphia correspondent writes: "As a result of Fire Marshal Lattimer's annual inspection of theaters in this city, it is probable that some large contracts for supplies of rubber hose will soon be placed. He has recommended to Director of Public Safety Potter that the latter notify owners of theaters and public playhouses to use fire hose made of rubber hereafter, instead of linen. The use of linen hose is considered unsatisfactory because, according to Mr. Lattimer, it is likely to flatten so as to impede the flow of water. 'All hose used in theaters hereafter must be rubber lined,' is the order sent to owners of the different playhouses."

NEW INCORPORATIONS.

THE Akron Rubber Shoe Co., September 21, 1905, under Ohio laws; capital, \$5000. This company has been formed by The B. F. Goodrich Co. (Akron, Ohio), in connection with their organization of a new department for the manufacture of rubber footwear.

=Standard Rubber Co., September 2, 1905, under New Jersey laws; capital \$50,000. Incorporators: John M. Wright, James D. Brady, and Stephen C. Cook, all of Trenton, N. J. The purpose is the manufacture of mechanical rubber goods; offices have been opened in the First National Bank building at Trenton.

=The Lancaster Rubber Co. (Lancaster, Ohio), August 28, 1905, under Ohio laws; capital authorized, \$50,000. Incorporators: Frederick Keifer, Charles J. Franklin, H. C. Benner, Mabel A. Franklin, Edith Keifer.

=Lowe Rubber Process Co. (San Francisco), August 12, 1905, under California laws; capital \$300,000, in \$1 shares. Incorporators: E. L. Lowe, A. Lollewod, J. H. Marble, and Franklin K. Lowe, all of San Francisco, and R. E. Russell, Alameda, Cal.

TRADE NEWS NOTES.

THE Warren Rubber Co. (Warren, Ohio), wholesalers of rubber boots and shoes, have increased their capital stock from \$30,000 to \$50,000, to enable them to take care of their steadily increasing business. The company was incorporated early in 1897, with \$20,000 capital. The new stock, taken principally by the old shareholders, is entitled to 7 per cent. dividends semi-annually.

=Boston Woven Hose and Rubber Co. advise us that since September 1 their Philadelphia address has been 71 Drexel building, which is the headquarters of Mr. Frederick E. Stockwell, their local branch manager.

=William Raisch has resigned as secretary and treasurer of the Alden Rubber Co. (Barberton, Ohio), to accept a position with the Dayton Rubber Manufacturing Co., and his assistant, E. B. Joy, has been promoted to the position lately filled by Mr. Raisch.

=The New York Fire department repair shops are to be equipped by the B. F. Sturtevant Co. (Boston) with a complete outfit of forges, blowers, and a smoke exhaustor.

=One of the most attractive and useful souvenirs offered in the rubber trade is the pigskin card case given to their friends by the Fabric Fire Hose Co. (New York). In addition to this the company issue a very attractive gold and red enamel button bearing their trade mark and the insignia of a fire chief, which button is distributed at firemen's conventions and much prized by recipients.

Sent out with the compliments of The Pure Gum Specialty Co. (Barberton, Ohio) is an exceedingly beautiful picture entitled "Summer," from an original painting by Philip Boileau, one of the foremost of the younger American school of figure painters. The picture is well worth framing and preserving and is a type of advertising that appeals to all.

=Suit has been filed against the Bourn Rubber Co. in the superior court at Providence, Rhode Island, by Hyman Kamros, a former employé, to recover \$5000 for personal injuries alleged to have been due to the defective condition of an elevator in the company's factory.

=William F. Mayo & Co. (Boston) made an extensive exhibit of the lines of rubber boots and shoes of which they are jobbers, at Minneapolis during the Minnesota state fair, September 4-9, in charge of their northwestern representatives, I. R. Burwell and Charles Wiggin.

=A meeting of the directors of the Maynard Rubber Corporation, jobbers in rubber goods at Springfield, Massachusetts, and Hartford, Connecticut, was held in the latter city on September 5, the president, E. W. Maynard, in the chair. Nothing of special interest is reported, the meeting having been devoted to going over the company's plans for the coming year.

=Mr. Webster Norris, who has now become thoroughly adapted to life in a new region, as superintendent of the Republic Rubber Co. (Youngstown, Ohio), spent his vacation this year at Ogunquit, Maine. On his return, at the middle of September, he favored a number of his old friends in the industry, in the East, with a call.

=Towner & Co. (Memphis, Tennessee), proprietors of the leading exclusively rubber house in the South, have secured the contract for supplying the rubber floor tiling and mats required for the splendid new building of the Memphis Trust Co.

=The Aladdin Rubber Co. (Akron, Ohio), have decided upon another location than that reported in these pages last month. Building has been started near the plant of the Alden Rubber Co., at Barberton, and it is expected to be in operation by December 1. The first building will be 111x54 feet, part three stories high.

=The American Chicle Co.'s new factory at Toronto is about completed, the main building being 250 x 60 feet and three stories high, with an annex having a floor space of 7000 feet. J. W. Siddall, of Toronto, is the architect.

=Incorporation papers were filed under the laws of New York, September 13, 1905, by the Standard Safety Air Cushion Co., of New York city, with \$100,000 capital, to manufacture air cushions for passenger and freight elevators. This involves no use of rubber, the cushions being made of steel plates. The list of incorporators is headed by John L. Baker, No. 31 Broadway, New York.

=The Neponset Rubber Co., incorporated in New Jersey in 1904 to make mechanical rubber goods at Hyde Park, Massachusetts, acquired the factory before used by the Boston Gosamer Rubber Co., and about 3 acres of the land attached thereto, for \$30,000. They paid \$10,000, giving a mortgage for the remaining \$20,000 to the Federal Trust Co. (Boston). The sheriff of Norfolk county, Mass., on August 26, sold certain materials in the factory, seized under attachment, and the factory has been closed.

=The Indiana Rubber and Insulated Wire Co. (Jonesboro, Indiana), have just completed a new addition to their buildings and have orders placed for additional machinery to cost about \$20,000. This machinery is in the way of mills and a new calender, as well as some extensive wire testing apparatus.

=The Swinehart Clincher Tire and Rubber Co. (Akron, Ohio), have been installing a new steam engine, hydraulic press mill, and tubing machines, with the effect of doubling their capacity.

=The Stein Double Cushion Tire Co. (Akron, Ohio) have in progress two additions to their factory, which they hope to have completed and in use during this month. One addition, 70 X 40 feet, will be used for a machine shop, and the other, 40 X 20 feet, for a curing room. The new additions will practically double the capacity of the factory.

=It is understood that the shareholders of the Goodyear Tire and Rubber Co. at the meeting referred to in the last INDIA RUBBER WORLD (page 422), after discussing the proposed substitution of new shares for the bonds now outstanding, failed to take any action in the matter.

=The business established 30 years ago by Joseph Bachrach, in the manufacture of rubber balloons and other novelties, in Brooklyn, New York, is now being carried on by his son Philip Bachrach, at No. 23 Judge street, where the concern has been located for 21 years. Philip Bachrach, in addition to conducting the factory, is active in Brooklyn political affairs.

=The Cincinnati Rubber Manufacturing Co. have arranged for their Chicago representation, with offices at room 321 Rookery building, which will be in charge of Mr. J. E. Dickson, who has been identified with the rubber trade in Chicago and the territory tributary thereto for a number of years.

MR. APPLETON IN A CARTOON.

THE Boston *Traveler* has a cartoonist who daily brings before the people of the "Hub" well known business men by means of a very good sketch and a few suggestive touches that are descriptive of the business in which the subject of the sketch is engaged. The illustration shown is a very good portrait of Mr. Francis H. Appleton and the kinds of rubber scrap that he holds in his hands point to the reclaiming business which he successfully runs. The artist has pictured him as being pretty well up in the air—perhaps prophetic of the near future, when prices of rubber scrap will soar so high that the trade can only reach them from the chimney tops.

THE HARTFORD RUBBER WORKS CO.

At a meeting of the directors at Hartford on September 20, the work of the general manager was divided between two officials. William Seward, Jr., first vice president, who has been the general manager for some years, was made factory manager, and J. D. Anderson, a vice president, was made commercial manager. Thomas Midgley, who has been in charge of the testing department, as consulting engineer, was added to the list of vice presidents. Charles B. Wittlesey, hitherto general correspondent, has been made chief clerk.

ELECTRIC RUBBER MANUFACTURING CO.

THIS company, incorporated in November, 1903, under New Jersey laws, with \$1,000,000 capital authorized, has begun operations at Rutherford, in that state, in the premises sometime occupied by the Hazleton Boiler Co. The new company is engaged in the manufacture of solid and pneumatic vehicle tires, one feature of which is a process designed to protect the rubber against oxidization. The company is also producing hard rubber battery jars. The officers are: James H. George, president; W. A. Jacobus, vice president; W. J. Conkling, treasurer; and Charles H. George, secretary. The factory superintendent is Henry A. Middleton, who has had a number of years experience in the rubber industry.

PERSONAL MENTION.

MR. ELIOTT M. HENDERSON, vice-president of the Manhattan Rubber Manufacturing Co. (New York), recently started on a tour of business and pleasure combined. The leading American newspapers have been supplied by the Associated Press with the following cable despatch:

LIVERPOOL, September 26.—Mr. E. M. Henderson, vice president of the Manhattan Rubber Manufacturing Co., of New York, one of the largest rubber concerns in the United States, is at present visiting this country to investigate the conditions and trend of the rubber trade here. Mr. Henderson, through the Institute of Tropical Research, has been introduced to Liverpool rubber merchants, and after a short stay in the city proposes to visit Manchester and London. Subsequently Mr. Henderson will extend his tour of commercial observation to the plantations of Ceylon, the Straits Settlements, East Africa, and possibly West Africa also, his principal object being to examine the methods of rubber cultivation and the different processes of coagulation. Mr. Henderson's tour, practically around the world, is a striking illustration of the way in which enterprising business men set to work, the aim in this case being to study the improvements introduced during recent years into the rubber growing industry in order that the company concerned may keep pace with the latest improvements in their own extensive plantations in Nicaragua.

=Mr. Arthur W. Stedman, of the firm of George A. Alden & Co., has very few equals as a judge of fine horses. A significant evidence of this was his selection recently as one of the judges at a horse show at a county fair held at Windsor, Vermont, which he attended as the guest of Winston Churchill, and a few days later where he acted as judge at the fashionable horse show of the Myopia Hunt Club, Hamilton, Mass.

=President Colt, of the United States Rubber Co., and President Ivins, of the General Rubber, have returned from Europe.

=The somewhat lurid headline that appeared recently in the Philadelphia *Evening Telegraph*, which read:

CHESTER PIKE

A MENACE TO LIFE AND LIMB.

does not refer to the gentleman of that name who has long been distinguished as one of the ablest of the rubber shoe salesmen. The reference is to the turnpike of the town of Chester, familiarly known as "the pike."



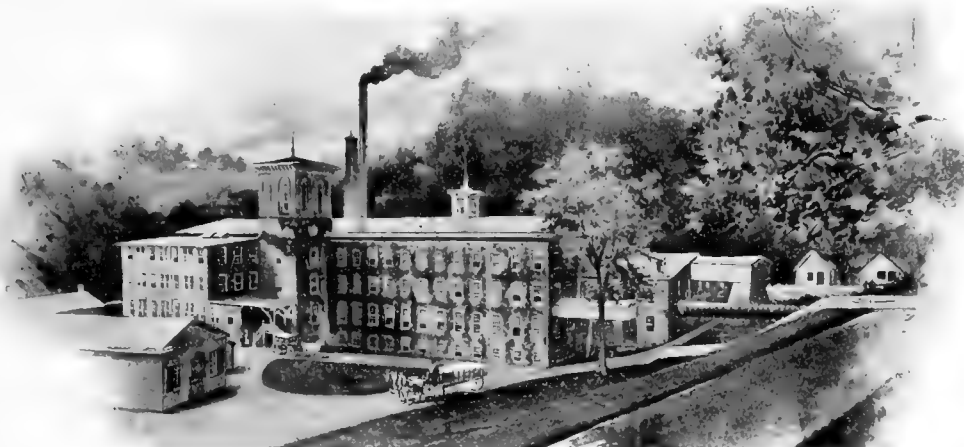
MR. F. H. APPLETON.

THE FABRIC FIRE HOSE CO.'S PLANT.

THE factory of the Fabric Fire Hose Co., at Sandy Hook, Connecticut, on a tract of 100 acres on both sides of the Pootatuck river, is fortunately situated with regard both to the fitness of the location for its business and to the attractiveness of the surroundings. It is a historic site, for here were the beginnings of the New York Belting and Packing Co., who occupied these premises for many years before removing their factories to New Jersey. Part of the premises also served as the original hard rubber factory of the late Conrad Poppenhusen, pioneer in that industry.

Near the spacious factory buildings, with the daily capacity of 6000 feet of fire hose, are 28 well constructed dwelling houses owned by the company and occupied by the 100 employés at a nominal rental—the nucleus of an ideal industrial community, whose workers are well paid and well satisfied, and who are consequently absolutely loyal to the interests of the company.

The specialty of the Fabric Fire Hose Co. is a wax and Paragum treated hose, the process, which is patented, consisting of saturating the yarn with melted wax and rubber, which treatment renders it impervious to rot and mildew. Another and very popular line manufactured by this company is its Under-



writers' hose, an antiseptically treated product known as the "Keystone" brand, and made under the specifications of the National Board of Underwriters and Associated Factory Mutual Insurance Companies. In addition to this they make a garden hose of superior quality and which is in active request—in common with its other lines—as the entire output of the factory is absolutely guaranteed.

An important feature of the factory is its completely equipped machine shop, in which virtually all of the looms in operation in the factory are made, as are all of the repairs. The entire plant is equipped with the most approved apparatus, from its automatic sprinkler system to its new Bowser naphtha tank, endorsed by the Associated Factory Mutual Insurance Companies. A new building to be devoted exclusively to tube manufacture is now in process of erection.

This ideal plant, as well as the New York headquarters (No. 127 Duane street), are under the personal supervision of Mr. William T. Cole, general manager of the company, to whose genius for organization and untiring effort may be ascribed not only the present model condition of the factory and property, but of its people as well. Improved looms and many other innovations may be credited to the same source. Mr. Cole has a charming home at Sandy Hook, where he and his family spend the greater part of the year.

TRADE CLASH OVER GOLF BALLS.

[FROM THE NEW YORK "SUN," SEPTEMBER 18.]

A CLASH between certain makers of golf balls, too eager to use the open championship as a vehicle to advertise their products, and the United States Golf Association executive committee, has been settled in the manner suggested by the committeemen. Six or eight weeks ago the professionals throughout the country received from one firm a circular stating that the player winning the open championship with its ball would receive a bonus of \$500, that whoever came second would get \$250 and so on to an aggregate of \$1000. Similar circulars were sent out by one or two other makers, offering cash inducements to the players to use their golf balls. The first prize in the open is \$200 and a golf medal and the added money in all is \$870; and unless this system of bonuses was nipped in the bud, there was apprehension among the committeemen that a rank evil would grow up to smother the importance of the open championship as a genuine, fair and above board test of golfing skill.

A sub-committee, headed by Ransom H. Thomas, the United States Golf Association president, took charge of the matter. While admittedly supreme in its power over the game and the players, this was the first movement on the part of the United States Golf Association to interfere in any way with the methods of those who sell golf goods, aside from what has been done incidentally in drawing a line between the amateur and the professional, and although enlisted to fight to a finish if necessary, the committeemen did not begin with threats. If the concerns approached had chosen to wave the red flag of defiance none of the players

would have been permitted to use the balls boomed in the objectionable manner, but no such retaliatory policy has been brought up in the carrying on of the negotiations.

Mr. Thomas opened up a correspondence with the different hustlers in the golf ball trade, which led to personal interviews and promises that the circulars announcing bonuses would be forthwith cancelled. The makers have submitted and the cash premiums announced are now null and void. Mr. Thomas's declaration of independence was this:

The offering by manufacturers of golf goods of cash prizes to be played for at the open championship of the United States Golf Association is, in the opinion of the executive committee, detrimental to the best interests of the game of golf and should be prohibited.

The manufacturers have agreed to uphold the text and spirit of this ruling.

THEY MIGHT LAUGH.—The Mexican rubber monopoly might do well to see Dr. Tutton and buy his discovery. But probably they will laugh at it until it proves too good a thing to sell.—*Benton Harbor (Michigan) Palladium.*

AN UNANSWERED QUERY.—The Cincinnati *Enquirer* prints the following inquiry without vouchsafing any reply: "Could you kindly inform an old subscriber how I could make material same as rubber collars are made of?"

THE TEXTILE GOODS MARKET.

THE present condition of the cotton duck market is firmer than one month ago, with the tendency upward. The fact that the cotton planters at their recent convention resolved to hold the price at 11 per pound would indicate that prices for manufactured goods would be higher than they were last season, though manufacturers of ducks have not as yet made any prices for next year. It is not improbable that the schedule will be prepared within the current month.

There appears to be a persistent demand for ducks of every description and it is estimated by a competent authority that if demand increases proportionately next season the mills will probably be unable to meet it.

The raw cotton situation is extremely strong, the speculators exerting every effort to promote a strong "bull" movement and with considerable success. If the speculators are able to effect continued advances the spinners will be compelled to buy, which will naturally add strength to the situation.

The following letter from the president of an important southern mill to their New York agents is a faithful and significant reflection of existing conditions:

Owing to the advance in cotton and more than that to the very evident tendency to market slowly on the part of producers of the staple, we are compelled to make an advance in the price of goods. We would much prefer to continue selling at same prices if we could secure cotton at a profitable price. We know the danger of curtailing the consumption of goods by high prices and regretfully make the advance. There can be no doubt of the disposition or ability of the farmers to hold cotton until they can get their own price and we expect a sharp advance as soon as the slow marketing shall show up in the receipts.

The demand for numbered ducks is so heavy and results so satisfactory that it will be likely to exert an effect during the coming season on hose and belting duck prices. The disposition on the part of rubber trade buyers seems to be to avoid contracting for fabrics at existing quotations as long as present supplies or those covered by last season's contract agreements hold out.

NEW CABLE TO CHINA AND JAPAN.

A CERTIFICATE of increase of capital of the Commercial Pacific Cable Co., incorporated under the laws of New York state, from \$12,000,000 to \$15,000,000, was filed at Albany on September 15, together with an amendment to the certificate of incorporation providing that the line now extending from San Francisco, California, by way of Hawaii and Guam to Manila, may be extended from the latter point to Shanghai, China. Another extension is to be made from Guam to Yokohama, Japan. These extensions will have the effect of completing the original plans of the company, which it has been impossible to carry out hitherto owing to certain obstacles in the way of securing landing rights on the Asiatic mainland which have now been removed as a result of recent diplomatic negotiations. The consent of China to a landing at Shanghai was obtained several weeks ago, and the signature of the Japanese minister to the United States to an agreement with the cable company was made on September 13. The company will now proceed promptly with the manufacture and laying of the two new cables, which will require several months. The company's system will then pierce the Far East at three points: the Philippines, China, and Japan. With the new cable from Canso, Nova Scotia, to Port au Basques, Newfoundland, which was opened for business on September 11, and the fifth transatlantic cable, which was laid during the month, the Commercial system will extend over more than two-thirds of the way around the globe.

THE London correspondent of *The Times of Ceylon* writes: "Talking to the director of a Straits rubber company this week, he mentioned that on their property 100 coolies a day were hard at work tapping and bringing in 12 ounces a day. The yield per tree (the trees being from six to seven years old) was some 6 ounces from the one tapping, and the manager estimated that the yield per tree for the year would be $1\frac{3}{4}$ pounds of rubber per tree operated upon. The first consignment sold last week at 6s. 7d [= \$1 50 $\frac{1}{2}$]."

REVIEW OF THE CRUDE RUBBER MARKET.

THERE is practically no change to report in rubber market conditions since our last publication. Prices are higher for every grade quoted in these pages, but the figures given in this issue merely record a recovery from the decline which began about four months ago, covering the period of lessened activity in the industry during the heated term. The highest figures we have quoted for fine Islands Pará have been 132 @ 133, and the same grade is now 127 @ 128.

Considering the apparent activity of the factories in every branch of the industry, and the extent of stocks, together with the fact that it is yet too early for a large output from the Amazon for the current crop season, there is little to encourage the hope of lower priced rubber during the current year.

At the Antwerp sale on September 19, the 260 tons offered found ready buyers at a somewhat higher average than at the preceding sale. The August sale, it will be remembered, covered exceptionally large offerings for that market, and at higher prices than the brokers' estimation. The fact that at the next succeeding sale prices should show a still further advance is significant of the general situation in the rubber market—firmness and an upward tendency.

Arrivals at Pará thus far for the crop season have been some-

what larger than during the same months in preceding years, but not enough larger to suggest any probability of lower prices in consequence. The figures follow:

	1902.	1903.	1904.	1905.
July..... tons	1290	1280	1250	1450
August....	1370	1230	1260	1300
September...	1670	2010	1780	a 1850
Total.....	4330	4520	4290	4600

[a—To September 28.]

On another page appear details regarding the plantation rubber from the Far East offered at the London auctions during September. The rubber referred to appears to have become permanently established in the London markets and the amount coming forward may be expected to increase steadily with each year as more trees under cultivation come into bearing.

Following is a statement of prices of Pará grades, one year ago, one month ago, and on September 29—the current date:

PARA.	October 1, '04.	September 1 '05.	September 29.
Islands, fine, new....	108@109	125@126	127@128
Islands, fine, old.....	none here	none here	none here
Upriver, fine, new.....	110@112	128@129	129@130
Upriver, fine, old.....	112@114	131@132	132@133

Islands, coarse, new	60@ 62	70@ 71	71@ 72
Islands, coarse, old.....	none here	none here	none here
Upriver, coarse, new.....	86@ 87	90@ 91	92@ 93
Upriver, coarse, old.....	none here	none here	none here
Caucho (Peruvian) sheet.....	67@ 68	71@ 72	73@ 74
Caucho (Peruvian) ball.....	76@ 77	84@ 85	85@ 86

African sorts at New York show an advance, almost without exception:

AFRICAN.		CENTRALS.	
Sierra Leone, 1st quality	101@102	Esmeralda, sausage.....	84 @85
Massai, red.....	101@102	Guayaquil, strip.....	73 @74
Benguella.....	80@ 81	Nicaragua, scrap.....	83 @84
Cameroon ball.....	69@ 70	Panama, slab.....	67 @68
Accra flake.....	26@ 27	Mexican, scrap.....	83 @84
Lopori ball, prime.....	108@109	Mexican, slab.....	60 @62
Lopori strip, prime.....	91@ 92	Mangabeira, sheet.....	72 @73
Madagascar, pinky.....	91@ 92	EAST INDIAN.	
Ikelemba.....	109@110	Assam.....	97 @98
		Borneo.....	43 @44

Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine	5\$400	Upriver, fine.....	6\$400
Islands, coarse	2\$600	Upriver, coarse.....	4\$300
Exchange, 17 $\frac{3}{8}$ d.			

Last Manáos advices:

Upriver, fine.....	6\$300	Upriver, coarse.....	3\$800
Exchange, 17 $\frac{3}{8}$ d.			

NEW YORK RUBBER PRICES FOR AUGUST (NEW RUBBER).

	1905.	1904.	1903.
Upriver, fine.....	1.27@1.29	1.18@1.21	95 @100
Upriver, coarse.....	90@ 92	90@ 91	75 @ 79
Islands, fine.....	1.25@1.27	1.14@1.16	90 @ 97
Islands, coarse.....	68@ 70	65@ 67	59 @ 61
Cametá.....	71@ 73	65@ 66	58 @ 61

Statistics of Para Rubber (Excluding Caucho).

	NEW YORK.					
	Fine and Medium.	Coarse.	Total	Total	Total	Total
			1905.	1904.	1903.	1903.
Stocks, July 31..... tons	292	125 =	417	137	367	
Arrivals, August.....	223	222 =	445	478	912	
Aggregating.....	515	347 =	862	615	1309	
Deliveries, August.....	284	262 =	546	549	1085	
Stocks, August 31....	231	85 =	316	66	224	
	PARÁ.			ENGLAND.		
	1905.	1904.	1903.	1905.	1904.	1903.
Stocks, July 31..... tons	240	175	115	390	585	1320
Arrivals, August.....	1230	1010	1050	690	595	330
Aggregating.....	1470	1185	1165	1080	1180	1650
Deliveries, August....	1195	870	1030	700	745	675
Stocks, August 31	275	315	135	380	435	975
World's visible supply, August 31..... tons			1534	1281	2088	
Pará receipts, July 1 to August 31.....			2480	1010	1050	
Pará receipts of Caucho, same dates.....			220	230	230	
Afloat from Pará to United States, August 31			87	166	394	
Afloat from Pará to Europe, August 31.....			476	241	360	

Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers for carload lots, in cents per pound—show a general increase over last month's figures, as follows:

Old Rubber Boots and Shoes—Domestic.....	7 $\frac{1}{2}$ @ 7 $\frac{5}{8}$
Do —Foreign.....	6 $\frac{3}{4}$ @ 6 $\frac{7}{8}$
Pneumatic Bicycle Tires.....	5 $\frac{1}{2}$ @ 5 $\frac{3}{4}$
Solid Rubber Wagon and Carriage Tires.....	7 $\frac{3}{8}$ @ 7 $\frac{1}{2}$
White Trimmed Rubber.....	8 $\frac{1}{2}$ @ 8 $\frac{3}{4}$
Heavy Black Rubber.....	4 $\frac{7}{8}$ @ 5
Air Brake Hose.....	3 $\frac{1}{4}$ @ 3 $\frac{1}{2}$
Fire and Large Hose.....	2 $\frac{3}{4}$ @ 2 $\frac{7}{8}$
Garden Hose.....	2 $\frac{1}{4}$ @ 2 $\frac{1}{2}$
Matting.....	1 @ 1 $\frac{1}{4}$

In regard to the financial situation, Albert B. Beers (broker in India-rubber, No. 68 William street, New York) advises us as follows:

"Since August the condition of the money market has changed materially, and the demand for paper has been much lighter during September than for several months past, and rates have been strong at 5 per cent. for the best rubber names, and 5 $\frac{1}{2}$ @ 6 $\frac{1}{2}$ per cent. for those not so well known."

Antwerp.

RUBBER ARRIVALS AT ANTWERP.

AUGUST 29.—By the <i>Leopoldville</i> , from the Congo:		
Bunge & Co.....	(Société Générale Africaine) kilos.	82,000
Do	(Chemins de fer Grand Lacs)	6,000
Do	(Société A B I R)	40,000
Société Coloniale Anversoise.(Belge du Haut Congo)		1,500
Do	(Sud Kamerun)	2,000
Do		1,000
Société Equatoriale Congolaise.....	(Société l'Ikelemba)	2,000
Cie Commerciale des Colonies.....	(La Haut Sangha)	2,000
Charles Dethier.....	(Société La "M'Poko")	1,500
Comptoir des Produits Coloniaux (Ikela-Kadei Sangha)		20,000
Do	(Société "N'Goko" Sangha)	2,000
M. S. Cols.....	(Société l'Ikelemba)	1,000
Société Generale de Commerce.....	(Alimaïenne)	4,700
Do	(Société La Lobay)	10,000
L. & W Van de Velde.....	(Cie. du Kasai)	45,000
Do		1,600 222,300

Canada.

IMPORTS (in value) of crude India-rubber and Gutta percha, reclaimed rubber, and substitutes for fiscal years ended June 30:

FROM—	1902-03.	1903-04.	1904-05.
Great Britain	\$ 7,119	\$ 4,496	\$ 26,379
United States.....	1,816,682	2,508,939	2,701,832
Other countries	904	919	332
Totals	\$1,824,705	\$2,514,354	\$2,728,543

Rubber Receipts at Manaos.

DURING August and two months of the crop season for three years [courtesy of Messrs. Scholz & Co.]:

FROM—	AUGUST.			JULY-AUGUST 1.		
	1905.	1904.	1903.	1905.	1904.	1903.
Rio Purús—Acre..... tons	431	361	294	656	506	457
Rio Madeira	251	330	240	470	479	492
Rio Jurúa.....	57	...	...	94	25	2
Rio Javary—Iquitos. . .	30	188	100	120	213	114
Rio Solimões.	93	6	15	104	10	25
Rio Negro.....	1	...	3	5	...	15
Total.....	863	885	652	1449	1233	1105
Caucho.....	98	79	47	186	178	208
Total.....	961	964	699	1635	1411	1313

Para.

KANTHACK & Co. report [September 11]:

The rubber market has been distinctly more cheerful than for some time past, and with the continuance of well sustained and animated demand the impulse towards higher prices has taken further effect. Receipts are on quite a normal scale, being slightly in excess of last year's, while crop prospects continue to be very satisfactory.

Ceylon Exports (Plantation Rubber).

DETAILS—BY WEEKS.

POUNDS.		POUNDS.	
January 1 to July 24.....	55,895	Total to Aug. 21.....	69,047
Week ending July 31.....	992	Same period, 1904.....	41,766
Week ending Aug. 7.....	2,340	Same period, 1903.....	26,463
Week ending Aug. 14.....	5,898		
Week ending Aug. 21.....	3,922		
DESTINATION.			
Great Britain	51,808	United States.....	3,036
Germany	13,535	Australia	1,147

London.

EDWARD TILL & Co. report stocks [September 1]:

	1905.	1904.	1903.
LONDON { Pará sorts..... tons 12	—	—	—
{ Borneo..... 52	60	28	
{ Assam and Rangoon..... 45	10	8	
{ Penang..... 402	—	—	
{ Other sorts..... 200	378	202	
Total.....	711	448	238
LIVERPOOL { Pará..... 378	199	650	
{ Caucho..... 122	229	222	
{ Other sorts..... 483	632	254	
Total, United Kingdom.....	1694	1508	1364

PRICES PAID DURING AUGUST.

	1905.	1904.	1903.
Pará fine, hard..	5/ 6½ @ 5/ 7 5/ @ 5/ 2¼ 4/ 1 @ 4/ 3		
Do soft.....	5/ 5 @ 5/ 6 4/ 10½ @ 5/ 1½ 3/ 11 @ 4/ 2½		
Negroheads, scrappy..	3/ 10¾ 3/ 10 @ 3/ 11 3/ 2 @ 3/ 3¾		
Do Cameté.....	3/ 1 @ 3/ 1½ 2/ 8¾ @ 2/ 10½ 2/ 6¼ @ 2/ 6½		
Bolivian.....	5/ 6½ @ 5/ 7 5/ @ 5/ 2½ 4/ 2½ @ 4/ 3½		
Caucho, ball.....	3/ 6½ @ 3/ 8¼ 3/ 5 @ 3/ 6 3/ 0¾ @ 3/ 3		
Do slab.....	3/ @ 3/ 1 1/ 11 @ 2/ 10½ 2/ 7 @ 2/ 7½		
Do tails.....	3/ 1 @ 3/ 3¼ * 3/ 2 * 2/ 9		

[* Nominal value.]

AUCTION SALES REPORT.

SEPTEMBER 15.—The market for Pará has remained very quiet, with small sales at about 1d. decline. Fine hard on the spot and near sold at 5s. 7d.; November-December delivery at 5s. 5d.; soft fine scarce near at hand sold at 5s. 6¾d. Negroheads in fair demand; Manáos scrappy sold at 3s. 11d. @ 3s. 11½d.; Cameté 3s. 11½d., and Islands at 2s. 7½d. Bolivian firmly held for 5s. 8d. Mollendo quiet at 5s. 6d. nearest value. Peruvian quiet and little business doing; fine 5s. 7d., scrappy 3s. 9d., and slab 3s. 1d. Medium grades in auction to-day in moderate supply, and in good demand at generally dearer rates. Orinoco: 127 packages sold; fine at 5s. 6½d.; entire fine 5s. 4d.; scrappy negroheads at 2s. 10½d. Colombian good clean sheet, a little heated, 3s. 7½d. Central American and Cartagena good brown scrap at 3s. 8¾d. @ 3s. 9d. Madagascar rather mixed to good pinky 3s. 8½d. @ 3s. 9d. Mozambique small red loose bail 4s. 1d. Lamu ball rather sandy 3s. 4½d.

PLANTATION RUBBER.

LONDON, September 1—The parcels that were offered at auction to-day met with good competition, and for good sheet and pancakes 6s. 3d. @ 6s. 3¼d. was obtained; scrap 4s. 6d. @ 5s., according to quality. A parcel of Straits consisting of 20 cases sheet for which 6s. 3d. was bid and 70 cases Crêpe (50 pounds each) for which 6s. 4d. was bid, being 2d. per pound below recent sales privately, was offered and bought in. The particulars are as follows:

MARK.	Packages.	Description.	Price.
Glauros.....	2 cases.	Scrap.	Bought in
Arapolakande.....	6 cases.	Fine dark biscuits.	6s. 3¼d.
Arapolakande.....	2 cases.	Good scrap.	5s.
Hattangalla.....	1 case.	Fine biscuits, little rough.	6s. 3d.
Hattangalla.....	1 case.	Good scrap.	5s.
Nikakotua.....	1 case.	Scrap.	Bought in
Glencorse.....	1 case.	Biscuits mixed colors.	6s. 3d.
Glencorse.....	1 case.	Scrap.	Bought in
A B S.....	2 cases.	Fine thin pale sheets.	6s. 3¼d.
A B S.....	1 case.	Scrap.	Bought in
*Highlands estate.....	20 cases.	Fine sheets.	6s. 3d. bid
*Highlands estate.....	70 cases.	Pale and darkish Crêpe.	6s. 4d. bid
S P.....	2 cases.	Yellow pancakes.	6s.
		Fine Pará 5s. 6¾d.	

LEWIS & PEAT.

*The Highlands Estate is the property of Mr. W. W. Bailey [see THE INDIA RUBBER WORLD, September 1, 1904—page 407], near Klang, in the state of Selangor. The 20 cases referred to were held at 6s. 5d. The 70 cases, according to another report, were sold later at 6s. 4½d.

LONDON, September 15.—At public sale to-day the largest amount of plantation grown Pará rubber yet offered at auction

was catalogued, consisting of 84 packages Straits and 89 packages Ceylon, weighing in all about 8 tons. The quality generally was good, but there were very few really nice sale lots. The scrap was mostly mixed, of which there was some very poor lots on show. A little lot of 10 cases black Java sheet, being badly heated, only realized a low price. The demand was good, but in sympathy with lower prices for ordinary Pará, lower rates had to be accepted for fine biscuits—6s. 2d. @ 6s. 4½d. being the range of prices. Full particulars are as follows:

MARK.	Packages.	Description.	Price.
Warriapolla.....	4 cases.	Very fine pale biscuits.	6s. 4½d.
Warriapolla.....	1 case.	Fine darkish.	6s. 3d.
Warriapolla.....	1 case.	Mixed biscuits.	6s. 3d.
Warriapolla.....	3 cases.	Scrap balls.	3s. 10¼d.
Warriapolla.....	2 cases.	Rejections.	4s. 1d.
Tellagalla.....	4 cases.	Very dark biscuits.	Bought in.
Tellagalla.....	1 case.	Rejections.	5s. 1d.
Tellagalla.....	1 case.	Ordinary scrap.	4s. 7d.
Tellagalla.....	1 case.	Very barky scrap.	3s. 7½d.
M	2 boxes.	Fine biscuits.	6s. 3d.
M	1 box.	Scrap and rejected.	3s. 6d.
Gammadua.....	1 box.	Fine pale Ceará biscuits.	6s. 3d.
Glencorse.....	1 case.	Scrap.	4s. 8d.
Doranakande.....	2 cases.	Mostly dark biscuits.	Bought in.
Elston.....	1 case.	Dark scrap.	4s. 9d.
Elston.....	1 case.	Fine biscuits	Bought in.
Culloden.....	5 cases.	Fine pale biscuits.	6s. 4d.
Culloden.....	1 case.	Scrap nuggets.	5s. 1½d.
Culloden.....	4 cases.	Pale scrap.	5s. 6d.
Culloden.....	1 case.	Dark.	3s. 6d.
Ellakande.....	2 cases.	Fine biscuits.	6s. 2¾d.
Ingoya.....	3 cases.	Fine pale biscuits.	6s. 2d.
H L	1 bag.	Scrap.	4s. 9d.
K	2 cases.	Small pale biscuits.	6s. 3½d.
K	3 bags.	Biscuits and scrap.	5s. 3d.
K	9 cases.	Fair biscuits.	Bought in.
K	5 cases.	Fair biscuits.	Bought in.
P R	3 cases.	Fine sheets.	6s. 3½d.
S B	1 case.	Scrap.	5s. 0½d.
G M	3 cases.	Very fine biscuits.	6s. 4d.
S B C	1 case.	Good scrap pale.	5s. 2d.
S B C	1 bag.	Scrap biscuits.	4s. 7d.
P R	5 cases.	Fine large sheets.	6s. 4d.
S B	3 cases.	Scrap.	5s. 2½d.
D & Co.	3 cases.	Mixed biscuits.	6s. 2d.
V R & Co L	9 cases.	Dark scrap.	3s. 9d.
Klang	1 case.	Fair scrap.	5s. 4½d.
F W Q	2 cases.	Fine biscuits.	6s. 2d.
J A	1 case.	Fair biscuits.	6s. 3d.
J A	7 cases.	Dark scrap heated.	3s. 4½d.
J A	4 cases.	Cut pieces.	5s. 1½d.
B R R Co.	1 bag.	Ficus black.	4s. 3½d.
B R R Co.	1 case.	Ficus red.	Bought in.
B R R Co.	2 cases.	Sheets and biscuits.	Bought in.
B R R Co.	2 cases.		
Tjiderock.....	9 cases.	Fine black sheets, heated.	4s. 1d.
Tjiderock.....	1 case.	Very badly heated.	1s. 7d.

LEWIS & PEAT.

[NOTE.—In cases where marks involve symbols in addition to initials, no attempt has been made above to reproduce them.]

Liverpool.

WILLIAM WRIGHT & Co. report [September 1]:

Fine Para.—Demand on spot has been dull, with only slight fluctuations; closing value 5s. 7d., with not much inquiry for Upriver. There is a good demand for Islands and little offering; buyers at 5s. 6d., sellers 5s. 6½d. There has been a good demand for delivery, but in the present statistical position sellers are chary of offering, especially for distant. To-day's values are September, 5s. 6¾d., September-October, 5s. 6¼d., October-November, 5s. 5¾d., November-December, 5s. 5d. America still keeps quiet, and we are of opinion that when she does enter the market, although she will not rush prices, the demand thus created will have the effect of preventing any serious decline in values. In Brazil the demand is strong and active, all supplies finding ready buyers at prices considerably over those ruling here.

ALDEN, SYMINGTON & Co. announce that they have admitted into partnership Mr. Harry Symington and Mr. Edward Olson, both of whom have been actively associated with the firm in their business for some years.

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

September 5.—By the steamer *Bernard*, from Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
New York Commercial Co.	19,800	1,700	25,000	2,500	49,000
Poel & Arnold	.....	.....	81,100	.....	81,100
A. T. Morse & Co.	2,500	.....	17,500	.....	20,000
Edmund Reeks & Co.	12,300	100	2,300	.....	14,700
Lionel Hagenaers & Co.	5,000	.....	1,200	.....	6,200
Total	39,600	1,800	127,700	2,500	171,600

September 15.—By the steamer *Cearense*, from Manáos and Pará:

New York Commercial Co.	129,600	21,100	81,000	2,200	233,900
Poel & Arnold	15,600	4,800	83,600	300	104,300

A. T. Morse & Co.	14,600	4,600	36,100	14,100	69,400
Neale & Co.	15,500	2,800	20,800	.....	39,100
Edmund Reeks & Co.	13,900	1,000	12,700	800	28,400
Thomsen & Co.	15,300	.....	4,300	.....	19,600
Lionel Hagenaers & Co.	14,900	.....	4,100	.....	19,000
Lawrence Johnson & Co.	.....	.....	.....	19,700	19,700

Total. . . . 219,400 34,300 242,600 37,100 = 533,400

September 26.—By the steamer *Camelense*, from Manaos and Pará:

New York Commercial Co.	120,900	30,500	37,200	2,400	191,000
A. T. Morse & Co.	27,700	4,600	62,700	4,300	99,300
Poel & Arnold	.....	.....	57,500	.....	57,500
Neale & Co.	.....	.....	27,800	.....	27,800
Hagemeyer & Brunn	3,800	.....	10,000	.....	13,800
L. Hagenaers & Co.	5,800	.....	4,300	.....	10,100
Edmund Reeks & Co.	3,700	1,000	500	4,300	9,500

Total. . . . 161,900 36,100 200,000 11,000 = 409,000

[NOTE.—The steamer *Dunstan*, from Pará, is due at New York, October 1, with 370 tons Rubber.]

PARA RUBBER VIA EUROPE.

SEPT. 2.—By the <i>Maracas</i> =Cúddad Bolívar:	POUNDS.
Thebaud Brothers (Fine)	7,500
Thebaud Brothers (Coarse)	2,000 9,500
SEPT. 2.—By the <i>Lucania</i> =Liverpool:	POUNDS.
Poel & Arnold (Caucho)	65,000
SEPT. 11.—By the <i>Cedric</i> =Liverpool:	POUNDS.
Poel & Arnold (Caucho)	80,000
SEPT. 11.—By the <i>Elitiria</i> =Liverpool:	POUNDS.
George A. Alden & Co. (Caucho)	47,000
Wallace L. Gough (Fine)	4,500 51,500
SEPT. 25.—By the <i>Umbria</i> =Liverpool:	POUNDS.
New York Commercial Co. (Coarse)	5,000

CENTRALS—Continued.

SEPT. 6.—By the *Alleghany*=Colombia:

D. A. DeLima & Co.	1,500
G. Amsinck & Co.	1,500
Roldan & Van Sickle	1,300
Banco Exportasos	1,200 5,500

SEPT. 7.—By the *Sabine*=Mobile:

A. T. Morse & Co.	3,000
Manhattan Rubber Mfg. Co.	2,000 5,000

SEPT. 9.—By the *Matanzas*=Mexico:

H. Marquardt & Co.	1,000
Graham, Hinkley & Co.	500
European Account	22,500 24,000

SEPT. 11.—By the *Mexico*=Colon:

Lawrence Johnson & Co.	10,400
E. B. Strout	8,000
J. A. Medina & Co.	5,500
G. Amsinck & Co.	4,000
Hirzel, Feltman & Co.	7,000
A. M. Capen's Sons	3,700
Roldan & Van Sickle	3,100
American Trading Co.	2,900
Silva, Bussenius & Co.	2,200
Dumarest Bros. & Co.	1,800
Otto Gerdaul	1,200
A. Santos & Co.	1,000
Smithers, Nordenholt & Co.	800
Mann & Emdon	700
W. Loalza & Co.	800 53,100

SEPT. 12.—By the *Lampasas*=Mobile:

Manhattan Rubber Mfg. Co.	4,000
A. T. Morse & Co.	3,000
A. N. Rotholz	2,000 9,000

SEPT. 13.—By the *Sibria*=Colombia:

G. Amsinck & Co.	1,800
Banco de Exportasos	1,800
H. B. Claffin & Co.	1,000 4,600

SEPT. 13.—By the *Calderon*=Bahia:

Hirsch & Kaiser	65,000
American Commercial Co.	25,000 90,000

SEPT. 16.—By the *Esperanza*=Mexico:

Thebaud Brothers	1,500
E. Steiger & Co.	1,100
Harburger & Stack	1,300
H. Marquardt & Co.	700
E. N. Tibbals Co.	500 5,100

SEPT. 16.—By the *Pretoria*=Hamburg:

General Rubber Co.	20,000
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SEPT. 18.—By the *Alianza*=Colon:

Piza, Nephews & Co.	3,500
Mann & Emdon	3,600
E. B. Strout	1,500 8,000

SEPT. 18.—By the *Altai*=Costa Rica:

A. A. Lindo & Co.	1,000
H. B. Claffin & Co.	1,200
Kunhardt & Co.	600 2,700

SEPT. 18.—By the *Gera*=Colon:

G. Amsinck & Co.	20,000
Hirzel, Feltman & Co.	18,500
Eggers & Heinlein	500 39,000

SEPT. 19.—By the *Tennyson*=Bahia:

J. H. Rossbach & Bros.	43,000
Hirsch & Kaiser	16,000
American Commercial Co.	4,000
Lawrence Johnson & Co.	1,500
A. D. Hitch & Co.	1,500 66,000

SEPT. 19.—By the *Rio Grande*=Mobile:

A. T. Morse & Co.	9,500
European Option	20,000 29,500

SEPT. 21.—By the *Comus*=New Orleans:

Manhattan Rubber Mfg. Co.	2,000
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CENTRALS—Continued.

SEPT. 23.—By the *City of Washington*=Mexico:

H. Marquardt & Co.	1,200
American Trading Co.	1,000
Harburger & Stack	500
E. Steiger & Co.	500
Fred Probst & Co.	600
European Option	22,500 26,300

SEPT. 23.—By the *Teutonic*=Liverpool:

George A. Alden & Co. 5,500

SEPT. 25.—By the *Havana*=Colon:

Hirzel, Feltman & Co.	21,200
G. Amsinck & Co.	16,000
American Trading Co.	3,600
Mann & Emdon	2,500
Roldan & Van Sickle	1,500
Dumarest Bros. & Co.	1,000
A. M. Capen's Son	900
Isaac Brandon & Bros.	600 47,300

AFRICANS.

AUG. 28.—By the *Celtic*=Liverpool:

A. T. Morse & Co.	22,500
George A. Alden & Co.	2,500 25,000

AUG. 28.—By the *La Touraine*=Havre:

George A. Alden & Co.	22,500
General Rubber Co.	11,000 39,500

AUG. 28.—By the *Oceanic*=Liverpool:

A. T. Morse & Co.	17,000
Poel & Arnold	14,000
Wallace L. Gough	5,100
Robinson & Tallman	3,800 33,500

AUG. 30.—By the *Bismarck*=Hamburg:

Poel & Arnold	4,500
George A. Alden & Co.	2,500 7,000

SEPT. 1.—By the *Paninsular*=Lisbon:

General Rubber Co.	52,000
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SEPT. 5.—By the *Civic*=Liverpool:

Poel & Arnold	15,000
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SEPT. 5.—By the *Vaderland*=Antwerp:

Poel & Arnold	90,000
A. T. Morse & Co.	75,000
Rubber Trading Co.	20,000 185,000

SEPT. 5.—By the *Blucher*=Hamburg:

Robinson & Tallman	10,000
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SEPT. 7.—By the *Majestic*=Liverpool:

General Rubber Co.	22,500
Poel & Arnold	15,000
A. T. Morse & Co.	11,500
George A. Alden & Co.	7,000
Earle Brothers	4,000 60,000

SEPT. 8.—By the *Patricia*=Hamburg:

A. T. Morse & Co.	20,000
George A. Alden & Co.	15,000
A. W. Brunn	5,000
Poel & Arnold	3,500 43,500

SEPT. 11.—By the *La Bretagne*=Havre:

General Rubber Co.	25,000
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SEPT. 11.—By the *Cedric*=Liverpool:

A. T. Morse & Co.	45,000
Robinson & Tallman	2,000 47,000

SEPT. 11.—By the *Kroonland*=Antwerp:

George A. Alden & Co.	230,000
General Rubber Co.	155,000
Robinson & Tallman	35,000 420,000

SEPT. 11.—By the *Fricka*=Bordeaux:

A. T. Morse & Co.	11,500
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OTHER ARRIVALS AT NEW YORK.

CENTRALS.

AUG. 25.—By the <i>Rio Grande</i> =Mobile:	POUNDS.
A. N. Rotholz	3,500
AUG. 26.—By the <i>Seguranca</i> =Colon:	POUNDS.
G. Amsinck & Co.	2,700
J. A. Medina & Co.	1,900
Meyer Hecht	1,800
Mann & Emdon	1,100
Lanman & Kemp	500 8,000
AUG. 26.—By the <i>Vigilancia</i> =Mexico:	POUNDS.
E. Steiger & Co.	2,500
Harburger & Stack	1,800
Strube & Utze	4,000
J. W. Wilson & Co.	1,300
H. Marquardt & Co.	1,000
Isaac Kuble & Co.	500
American Trading Co.	500 11,600
AUG. 29.—By the <i>Terence</i> =Bahia:	POUNDS.
Hirsch & Kaiser	47,000
American Commercial Co.	5,000 52,000
AUG. 30.—By the <i>Sarnia</i> =Costa Rica:	POUNDS.
G. Amsinck & Co.	2,500
Mecke & Co.	2,000
Andreas & Co.	1,000
Isaac Brandon & Bros.	500 6,000
AUG. 31.—By the <i>Havana</i> =Colon:	POUNDS.
Hirzel, Feltman & Co.	8,200
G. Amsinck & Co.	5,700
J. A. Medina & Co.	3,400
Dumarest Bros. & Co.	3,300
Roldan & Van Sickle	2,800
A. M. Capen's Sons	2,700
Charles E. Griffin	2,000
A. Santos & Co.	1,800
E. B. Strout	1,700
Lawrence Johnson & Co.	1,200
Mann & Emdon	700
D. A. De Lima & Co.	500
Meyer Hecht	500 34,500
AUG. 31.—By the <i>San Marcos</i> =Mobile:	POUNDS.
A. T. Morse & Co.	6,500
Manhattan Rubber Mfg. Co.	1,500 8,000
SEPT. 2.—By the <i>Yucatan</i> =Mexico:	POUNDS.
H. Marquardt & Co.	2,000
Thebaud Brothers	2,500
Harburger & Stack	1,300
E. N. Tibbals & Co.	1,000
E. Steiger & Co.	500
Fred. Probst & Co.	500 7,800
SEPT. 6.—By the <i>Advance</i> =Colon:	POUNDS.
Hirzel, Feltman & Co.	14,000

AFRICANS—Continued.

SEPT. 14.—By the <i>Baltic</i> =Liverpool:	
Poel & Arnold.....	17,500
SEPT. 14.—By the <i>Carpathia</i> =Liverpool:	
Geo. A. Alden & Co.....	45,000
General Rubber Co.....	30,000
A. T. Morse & Co.....	11,500
Windmuller & Reolker.....	2,500 89,000

SEPT. 16.—By the <i>Pretoria</i> =Hamburg:	
General Rubber Co.....	48,000
George A. Alden & Co.....	18,000
Rubber Trading Co.....	2,000 68,000

SEPT. 8.—By the <i>Zeeland</i> =Antwerp:	
Poel & Arnold.....	45,000
A. T. Morse & Co.....	35,000
George A. Alden & Co.....	27,000
Rubber Trading Co.....	22,000
Amerman & Patterson.....	19,000 148,000

SEPT. 19.—By the <i>Mesaba</i> =London:	
General Rubber Co.....	11,000

SEPT. 21.—By the <i>Graf Waldersee</i> =Hamburg:	
General Rubber Co.....	140,000
George A. Alden & Co.....	45,000
Poel & Arnold.....	13,000 198,000

SEPT. 23.—By the <i>Teutonic</i> =Liverpool:	
Poel & Arnold.....	17,500
A. T. Morse & Co.....	4,500
Wallace L. Gough.....	4,500
George A. Alden & Co.....	5,500 32,000

SEPT. 25.—By the <i>La Gascoyne</i> =Havre:	
General Rubber Co.....	11,500
A. T. Morse & Co.....	4,500 16,000

EAST INDIAN.

AUG. 28.—By the <i>St. Paul</i> =London:	
Poel & Arnold.....	3,000
Robinson & Tallman.....	1,500 4,500

SEPT. 2.—By the <i>New York</i> =London:	
Poel & Arnold.....	6,500
George A. Alden & Co.....	4,000 10,500

EAST INDIAN—Continued.

SEPT. 6.—By the <i>Montrose</i> =Singapore:	
Pierre T. Betts.....	20,000
Robert Brans & Co.....	17,500
A. T. Morse & Co.....	11,500
Winter & Smillie.....	5,000 54,000

SEPT. 15.—By the <i>Nordpol</i> =Singapore:	
Robert Brans & Co.....	15,000
Heabler & Co.....	13,500
Poel & Arnold.....	10,000
Wallace L. Gough.....	7,000
A. T. Morse & Co.....	6,500
Windmuller & Reolker.....	3,000 55,000

SEPT. 16.—By the <i>Philadelphia</i> =London:	
Robinson & Tallman.....	4,500
Poel & Arnold.....	1,500
Wallace L. Gough.....	1,000 7,000

SEPT. 19.—By the <i>Mesaba</i> =London:	
General Rubber Co.....	13,500
George A. Alden & Co.....	3,500
Robinson & Tallman.....	1,000 18,000

GUTTA-JELUTONG.

SEPT. 6.—By the <i>Montrose</i> =Singapore:	
Robert Brans & Co.....	155,000
Heabler & Co.....	300,000
Pierre T. Betts.....	150,000
George A. Alden & Co.....	245,000
Robinson & Tallman.....	100,000
Wallace L. Gough.....	125,000
Winter & Smillie.....	100,000 1,175,000

SEPT. 15.—By the <i>Nordpol</i> =Singapore:	
Heabler & Co.....	200,000
Pierre T. Betts.....	175,000
Robert Brans & Co.....	135,000
W. R. Russell & Co.....	100,000
Poel & Arnold.....	95,000
George A. Alden & Co.....	65,000 770,000

GUTTA-PERCHA AND BALATA.

SEPT. 2.—By the <i>New York</i> =London:	
Wallace L. Gough.....	11,000

GUTTA-PERCHA—Continued.

SEPT. 5.—By the <i>Blucher</i> =Hamburg:	
To Order.....	11,500

SEPT. 6.—By the <i>Montrose</i> =Singapore:	
Winter & Smillie.....	30,000

SEPT. 15.—By the <i>Nordpol</i> =Singapore:	
Poel & Arnold.....	3,500

SEPT. 21.—By the <i>Graf Waldersee</i> =Hamburg:	
To Order.....	30,000

SEPT. 25.—By the <i>St. Paul</i> =London:	
Wallace L. Gough.....	11,500

BALATA.

AUG. 26.—By the <i>Celtric</i> =Liverpool:	
Henry A. Gould Co.....	10,000
Earle Brothers.....	2,000 12,000

AUG. 30.—By the <i>Korona</i> =Demerara:	
Charles P. Shillstone.....	5,000
Otto Heinze.....	4,500 9,500

SEPT. 13.—By the <i>Georgie</i> =Liverpool:	
Windmuller & Reolker.....	13,000
Earle Brothers.....	2,500
Henry A. Gould Co.....	2,500 18,000

SEPT. 22.—By the <i>Fontabelle</i> =Demerara:	
Charles P. Shillstone.....	9,000

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—AUGUST.

Imports:	POUNDS.	VALUE.
India-rubber.....	1,201,888	\$1,581,034
Gutta-percha.....	42,361	12,723
Gutta-jelutong (Pontianak) ..	1,593,969	51,494
Total.....	2,841,218	\$1,655,251

Exports:	POUNDS	VALUE.
India-rubber.....	94,310	\$87,864
Reclaimed rubber.....	323,356	38,702
Rubber Scrap Imported.....	1,809,313	\$108,660

OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
July, 1905.....	2,547,685	260,506	2,287,179
January-June.....	39,834,796	1,574,030	38,260,766
Seven months, 1905.....	42,382,481	1,834,536	40,547,945
Seven months, 1904.....	37,683,032	1,979,724	35,709,308
Seven months, 1903.....	35,539,720	1,751,513	33,788,207

GERMANY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
July, 1905.....	3,448,940	1,091,860	2,357,080
January-June.....	22,835,120	7,363,840	15,471,280
Seven months, 1905.....	26,284,060	8,455,700	17,828,360
Seven months, 1904.....	20,281,680	5,848,700	14,972,980
Seven months, 1903.....	21,163,560	7,211,160	13,952,400

FRANCE.*

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
July, 1905.....	1,876,820	1,554,300	322,520
January-June.....	14,586,000	7,923,520	6,662,480
Seven months, 1905.....	16,462,820	9,477,820	6,985,000
Seven months, 1904.....	12,802,680	7,388,260	5,414,420
Seven months, 1903.....	9,651,840	5,300,020	4,351,720

BELGIUM.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
July, 1905.....			
January-June.....	8,849,086	6,623,102	2,225,984
Seven months, 1905.....			
Seven months, 1904.....	6,031,542	5,154,098	877,444
Seven months, 1903.....	5,379,251	3,908,302	1,470,949

GREAT BRITAIN.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
July, 1905.....	4,841,088	2,413,040	2,428,048
January-June.....	32,678,688	18,032,680	14,646,008
Seven months, 1905.....	37,519,776	20,445,720	17,074,056
Seven months, 1904.....	34,992,048	19,453,286	15,538,762
Seven months, 1903.....	32,200,112	23,013,872	9,186,240

ITALY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
July, 1905.....	99,660	29,040	70,620
January-June.....	854,700	118,580	736,120
Seven months, 1905.....	954,360	147,620	806,740
Seven months, 1904.....	901,120	73,480	827,640
Seven months, 1903.....	1,021,240	100,760	920,480

AUSTRIA-HUNGARY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
July, 1905.....	272,580	5,060	267,520
January-June.....	1,570,360	16,280	1,554,080
Seven months, 1905.....	1,842,040	21,340	1,821,600
Seven months, 1904.....	1,757,140	14,740	1,742,400
Seven months, 1903.....	1,723,480	16,720	1,706,760

NOTE.—German statistics include Gutta-percha, Balata, old rubber, and substitutes. French, Austrian, and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

* General Commerce.

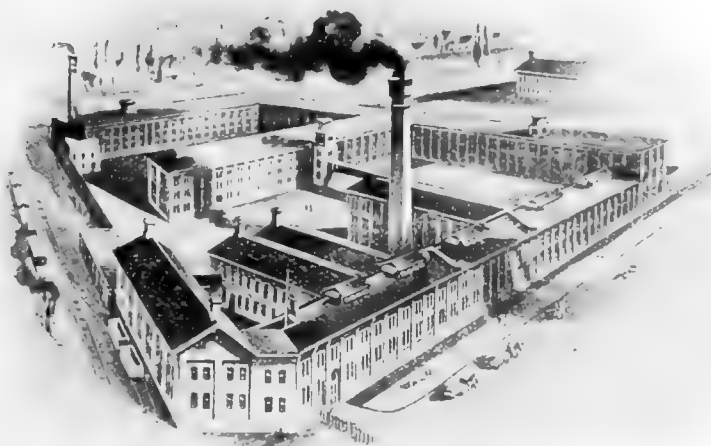
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DRAWBACKS TO THE RUBBER TRADE.

IN another column is reported the loss on the Amazon, a few hours above Pará, of a steamer carrying 210 tons of rubber, worth locally perhaps near \$400,000. Such occurrences are not frequent, though within a year the Amazon Steam Navigation Co. have lost on the Purús two steamers worth \$130,000. But they are liable to occur at any time, for navigation on the Amazon and its chief branches is not all plain sailing. The most recent disaster was due to a collision, at a point where the Amazon is a sea rather than a river, between two steamers which had been hid from each other's view while rounding an island. Some of the rivers are badly obstructed by cataracts—notably the Madeira, on which it has been asserted that one-fourth of the rubber sent down from Bolivia is sunk and lost.

Another piece of news from the Amazon relates to serious damage by storm to a government boat between Manáos and Pará, after which, and apart from the effects of the storm, the boat ran aground and required assistance, for which payment had to be made. This boat, by the way, was following a merchant steamer with a cargo of rubber of disputed origin, payment of export duties on it being claimed both by Amazonas state and the Federal administration in the Acre.

These matters we refer to as illustrating the drawbacks to the trade in crude rubber which exist in addition to the remoteness from commercial centers of the rubber forests and the natural conditions which accentuate the labor problem. After the rubber is harvested, there are serious risks in transportation, while the attention which the tax collectors give to the business does not tend to encourage enterprise.

Nor is the list of drawbacks exhausted. The treacherous nature of the river bed still renders the Amazon cable line useless for much of the time, so that the interior rubber centers often are cut off from communication to an extent which seriously handicaps trade. It may be added that a glance at the recent extensive report, by the learned director of the Pará Museum, on the 14 species of Amazonian mosquitoes—including the yellow fever disseminating kind—all pictured in colors and in heroic size, would suggest to some minds a serious drawback to rubber gathering where such pests abound.

There are continually brought to our notice opportunities for the investment of capital in rubber estates—developed or otherwise—in the Amazon valley, and on paper some appear very attractive. Gather so much rubber at one price and sell it another (and higher) price, and one cannot fail to grow rich. But none of the prospectuses takes into account such drawbacks as are referred to constantly in our pages, not from motives of discouragement, but simply as a result of the ordinary work of newsgathering, which is our province.

The fact that in spite of all these difficulties so much forest rubber is produced proves how necessary rubber has become to the world; if the cost were twice as great, rubber would still be demanded. Without doubt the ex-

plotation of Amazon rubber yields profits to the people concerned in it, else the supply would cease. No doubt, also, many operators and investors suffer losses, just as is true in gold mining. And these losses are most apt to fall upon people who live abroad, or who have not become familiar with the business as a result of costly experience. Hence it is not strange that rubber concessions find so few ready buyers.

Many drawbacks to the rubber business ought in time to be overcome. To tell the truth, the Amazon valley is probably not less fitted now for the residence of Europeans than was the Mississippi valley 300 years ago, considering the advance science has made in sanitation, in engineering, and in other lines. All South America will be thickly populated in time. But this is no encouragement to the buying of wilderness rubber farms to-day, too remote for the investors to keep in touch with them, and under the jurisdiction of governments ineffective in the matter of protection, indisposed to give aliens fair treatment, and concerned about rubber only in taxing the traffic oppressively instead of adopting a policy of assisting its present and future development. It is this same governmental policy, that, as much as anything else, promises to lose to Amazonia its preëminence as a source of the world's supply of rubber.

CEYLON PLANTATION RUBBER has begun to appear at the Antwerp auctions. But nowadays rubber from every source figures in the important sales there. What is of much more consequence is the recent formation of a large company by Belgian capitalists to acquire several productive plantations of "Pará" rubber in the Malay States. This action we suspect to be the result of an exhaustive study made during the past two years by a member of a large Antwerp firm who have been an important factor in the crude rubber market there from its inception. Recognizing the imminence of a decline in production of rubber on the Belgian-owned concessions in Africa, an expedition was organized to study the conditions, present and prospective, of rubber production in every country, in order to determine the most promising field for the investment of a part of the capital which now yields less returns in the Congo than formerly. The conclusions reached were that the world's hope for rubber supplies lies ultimately in planting, and that, for the present at least, the Far East offers the best field for investments in rubber culture by Belgians. The new company mentioned in our news columns this month is the first result.

WE HAVE HEARD PEOPLE EXPRESS SURPRISE that the India-rubber trade afforded enough "news" to call for the regular publication of a journal devoted to that interest alone. We do not recall any month, however, when something really new in connection with the rubber business has not transpired, and it has been our pleasure as well as privilege to aid in giving the information currency in the trade. For example, we believe that this issue of THE INDIA RUBBER WORLD is the first journal to report the discovery that Balata is not mentioned in the United States tariff schedules, and that the customs powers that be have decided that, in default of provision to the contrary, imports of Balata henceforth are dutiable. It may also be "news" to the trade that there is a collector of customs at Norfolk, Virginia, though it was through the close scrutiny of this alert functionary that the discovery regarding Balata was made. What previous record of merit the Norfolk collector may have

to his credit we cannot say, but it appears that, on having to deal for the first time with Balata he tried to swell the national treasury reserve by an impost upon it, and his superiors will stand by him. It may be that the latest decision in the matter will yet be upset; but the Norfolk collector, having had a chance to be heard from, has not been caught napping.

THE GREAT DEVELOPMENT OF AUTOMOBILISM, and the related demand for tires, many of them costly, without doubt has been the basis of the greatest growth of the rubber industry in recent years. There has been nothing comparable to this growth in any former period. And it may not have occurred to everybody in the trade that France, the home of the automobile and of the pneumatic motor tire, no longer leads in the use of such vehicles. In New York state alone the number of registered automobiles at last accounts exceeded by some 3000 the number of registered motors in France, and two other American states together show as many registrations as New York. And there is no one of the other forty-two states without automobiles, though the lack of registration laws in many states renders impossible an estimate of their number. It is no wonder, then, that the American market for tires is coming to be regarded with interest by makers everywhere. As for the rubber factories, they have further encouragement in the growth of the use of rubber tired commercial motors, already a good second to the automobile, and destined possibly to exceed it in the demand for rubber involved.

THE VANDERBILT CUP RACE on October 14, just outside of New York, did not result in an American victory, but that, of course, was not the object. The contest did, however, stimulate greatly the American interest in automobiling, by bringing about a closer competition with foreigners, and giving both makers and users of automobiles on this side of the Atlantic a better idea of what is needed to put them abreast of the most advanced progress made in Europe. The fact that the cup goes to France is all the better, provided it should next be contested for in that country, by reason of the educational effect upon the Americans who will go over to attempt to reclaim the trophy. We feel that, on the whole, America has no cause to be ashamed of the showing made by the machines entered by home makers or by the work of the contestants in the race, while the showing made by the American tires was most creditable—and it is this feature of the whole business which most concerns the rubber industry.

THE ARRIVALS AT ANTWERP of rubber from the Congo Free State for the first nine months of the current year were smaller by 28 per cent. than in the same months of 1901, since which year the Congo rubber output has declined steadily. The best days of the Congo rubber trade probably have been passed, and the days of fabulous profits of the trading companies holding concessions in the Free State. The future of the State and the condition of the natives do not appeal strongly to the interest of the outside world, but where the rubber is to come from to replace the supply from the Congo when that is exhausted is a question of direct or indirect interest to all workers in or users of rubber.

ALASKA APPEARS DESTINED to become of great importance to American commerce. It is only a straw which points the direction of the wind, but it may be worth mentioning that the shipment of American rubber footwear to that territory during the last fiscal year amounted in value to \$166,644, or more than 2.3 per cent. on the \$7,200,000 which the United States paid to Russia for Alaska.

CONGO CONSUL TO THE UNITED STATES.

THE appointment of Mr. James Gustavus Whiteley, of Baltimore, Maryland, by the king of the Belgians as consul of the Congo Free State in the United States was reported in THE INDIA RUBBER WORLD, October 1, 1904 (page 21). Quite recently Mr. Whiteley has been raised to the rank of consul general, in recognition of services to the Congo state. He will now have charge of Congo interests throughout the United States, besides which this appointment makes him dean of the consular corps resident at Baltimore. Mr. Whiteley sailed on October 10 for Brussels on official business. Mr. Whiteley is a widely known writer on legal and economic topics and has represented the United States in several international congresses. Among other important bodies to which he belongs is the Institute of International Law, the membership of which includes Baron Kaneka, who lately visited the United States as an agent of the mikado of Japan, and Dr. Frederic de Martens, who acted in behalf of Russia in drafting the treaty of peace at Portsmouth.

INSURANCE OF OCEAN CABLES.

THE submarine cable despatched from London to the Mexican Telegraph Co., and arriving at Galveston, Texas, by the steamer *Faraday* in June [See THE INDIA RUBBER WORLD, July 1, 1905, page 349], measured 900 nautical miles and was insured in London on a valuation of £100,000 [= \$486,650]. In accordance with the terms of the contract underwriters were liable for partial or total loss of the cable not only while loading and in transit, but also during laying and repairing operations. Unlike ordinary cargo shipments the total value of the cable at risk diminishes as laying operations proceed. Underwriters have no further interest in cable expended, as the same is then uninsured. It generally happens, however, that the length of cable shipped provides a surplus at the termination of the work of laying and repairing. This, of course, is covered by the original insurance, which, in the case of the *Faraday*, expired on the delivery of any spare cable at Galveston. The insurance was accepted at a premium which was quite moderate notwithstanding the fact that the transport and work were effected by a steamer over 30 years of age.

TIRE REPAIRING IN AKRON.

[FROM THE AKRON (OHIO) "TIMES-DEMOCRAT."]

"THOUGH it has been the impression for a number of years and it is still believed in many quarters that the pneumatic tire is not a success and that the really practicable tire remains to be invented, it is true that the rapid advance that has been made in methods of repairing tires has had much to do with removing this condition," said a well known local rubber man to a reporter for the *Times Democrat*.

"Akron has been the place where many of the tire repairing inventions have been made. There was a time, once, in the early days of the bicycle craze, when more pneumatic tires were repaired in Akron than in any other place on the continent. Tires from Mexico and from Canada, tires from California and from Maine came into the big Akron rubber shops for repairs, and their owners simply waited until they came back.

"And the first repairs were crude. Sometimes they did not last until the tires were out of the factory. But this has all been changed. Now it is common to take one of the big auto tires that are made in Akron, cut a faulty or injured section

right out of it, build in another, vulcanize it so that the repair is really a part of the original tire, and send the tire back to the owner, good as new and as strong as when it was first made.

"The modern system of tire repairing has opened a field for much special machinery for this purpose, and some of the Akron machine shops are profiting largely by this kind of work."

WEAVING CURVED ELASTIC FABRICS.

IN the specification of British letters patent No. 9510 (1904), H. J. Gaisman, of New York, says that narrow elastic fabrics having rubber or other elastic strands interwoven longitudinally with the warp and weft threads, are woven with the elastic strands on one side of the central line thicker than those on the other side, or with the elastic strands graduated in size from one selvage to the other. When the fabric is in its normal condition the thick strands tend to draw the fabric towards one side, and thereby cause it to assume a curved form as indicated by dotted lines. The strands on one side may be put under greater tension in the loom, or the strands may vary in elasticity from one selvage to the other. The fabrics may be used for braces or suspenders, garters, armlets, and the like. When the fabrics are used for straps of braces, the convex edges of the two straps are connected at their meeting point by stitching or otherwise.

CAN YOU PREDICT RUBBER WEATHER ?

TO THE EDITOR OF THE INDIA RUBBER WORLD: As an amateur farmer, I am interested in the weather. I have gathered meteorological data for years but have not as yet found the slightest basis on which to ascertain the state of the weather even twelve hours ahead.

The government weather predictions are very faulty, and as many laymen claim they can predict the weather more accurately than the weather bureau, without any of the elaborate apparatus of the government, I hereby appeal to all the weather prophets of this country to enter a thirty day contest for a cash prize of \$100 which I will give to whoever predicts the weather most accurately and will tell for the benefit of the public by what methods he arrived at his conclusions. If the Editor will kindly publish this and aid in advancing the science of meteorology, I will be grateful.

F. R. FAST.

No. 97 Nassau street, New York, October 1, 1905.

"TAINTED MONEY" FOR RUBBER BOOTS.

THE recent extended discussion over the propriety of the acceptance by educational, religious, and charitable institutions of donations from persons whose wealth has been obtained by methods morally indefensible, not only has rendered the term "tainted money" a familiar phrase, but has brought to the front other new considerations in ethics. Among other things, contributions to "election funds" are likely to be viewed in a different way by many people in future. In this connection we quote as something rather odd the following extract from a letter to the New York *Sun*, by a correspondent whose guide through a rural district was a loquacious liveryman, full of information about the methods prevalent there for buying votes:

"The funniest thing about this election boodle," said he, "is, nine out of ten will buy rubber boots with it." On our way back to town, late in the afternoon, we met two old fellows, each carrying a brand new pair of rubber boots over his shoulders.

LITERATURE OF INDIA-RUBBER.

OBITUARY.

ENSAIO D'UMA SYNOPSE ESPECIES DO GENERO *HEVEA* SOB OS Pontos de Vista Systematico e Geographico. Pelo Dr. J. Huber. [A reprint from *Boletim do Museu Goeldi*—Vol. IV. (1905) Pp. 420-651.] [Pará: 1905.]

DR. HUBER, in this paper, has dealt with a vast amount of data bearing upon the genus *Hevea*, involving the details relating to no less than 21 species, enumerated by half a dozen authorities, and among other things considers their geographical distribution. Such work cannot fail ultimately to prove of much practical value, and Dr. Huber's essay carries us further toward a systematic understanding of the subject than any one work that has appeared hitherto.

HAWAII AGRICULTURAL EXPERIMENT STATION, HONOLULU. Press Bulletin No. 13. Rubber in Hawaii. [Honolulu: 1905.] [8vo. Pp. 11.]

THIS is stated to be "mainly a compilation from the extremely valuable monograph on the rubber plants of the world" by Peter Reintgen: "Die Kautschukpflanzen. Eine Wirtschafts-geographische Studie." This important German work, which was reviewed in THE INDIA RUBBER WORLD, June 1, 1905 (page 298), in addition to extensive statistics of rubber production in various countries, described the different commercial rubber species, and these descriptions have been judiciously condensed by Mr. Jared G. Smith, special agent in charge of the Hawaii experiment station, so as to form a "bulletin" sure to prove of interest to anybody in that region concerned about rubber culture.

RECHERCHES SUR L'EXTRACTION DU CAOUTCHOUC DES ÉCORCES et la Coagulation des latex dans les Mascarenhas. Par H. Jumelle. (Reprinted from *Le Caoutchouc et la Gutta-Percha*, August 15 and September 15, 1905.) Paris: 1905. [8vo. Pp. 17.]

IN CURRENT PERIODICALS.

RENTABILITÄT einer Guttaperchapflanzung für Privatkapital. By W. Kolbe. = *Der Tropenpflanzer*, Berlin. IX-9 (September, 1905). Pp. 519-525.

Observations sur l' *Hevea* dans le Sud-Annam. By Georges Vernet. = *Journal d' Agriculture Tropicale*, Paris. V-51 (September, 1905). Pp. 259-262.

Besuch Javanischer Pflanzungen—Vergleiche mit Samoa. (A visit to Javanese plantations; comparisons with Samoa.) By Hermann Fiedler. = *Der Tropenpflanzer*, Berlin. IX-10 (October, 1905). Pp. 559-577.

Ficus elastica in Angola. By J. Gofsweiler, Loanda. = *Der Tropenpflanzer*, Berlin. IX-10 (October, 1905). Pp. 581-584.

Women's Work in Rubber Factories: Its Effect on Health. By Mabel Parton, agent for the Women's Educational and Industrial Union of Massachusetts. = *The Federation Bulletin*, Boston. II-6 (March, 1905). Pp. 186-189.

OTHER BOOKS RECEIVED.

OS MOSQUITOS NO PARÁ. REUNIAO DE QUATRO TRABALHOS sobre os Mosquitos indigenas principalmente as especies que molestram o homem. Pelo Professor Dr. Emilio Augusto Goeldi. Pará: 1905. [4to. Pp. 154. 21 plates.]

THE fourth in a series of memoirs of the Pará Museum, in natural history and ethnography, is devoted to the study of the native mosquitos of the Brazilian state of Pará, and more particularly those injurious to man, including the *Stegomyia fasciata*, the mosquito which transmits yellow fever. The work is illustrated with 144 figures illustrating in detail the development through all the stages of life of the various species, and with colored plates showing each of 14 species largely magnified and in colors. Of the scientific value of the work we are not qualified to speak; as for the manner in which the book is put up, it compares favorably with any publication of any scientific institution elsewhere. We may add that after seeing these mosquito portraits we do not wonder at the high price of Pará rubber. The wonder is rather that men can be found to brave these pests in the rubber fields.

GENERAL WILLIAM H. SKIRM, of Trenton, New Jersey, died on the evening of October 7 at his home, No. 124 East Hanover street. He was born in Trenton, January 17, 1841, and at an early age was employed in the wholesale grocery house of Forst & Taylor, subsequently becoming a member of the firm, under the style of D. P. Forst & Co. He became interested in many important business concerns, being a stockholder in the Empire Rubber Manufacturing Co., of which he was for a number of years president, and also a stockholder in the Trenton Rubber Co. before the reorganization, and in the Trenton Oilcloth Co. For something like 25 years he was a director and important factor in the Trenton Banking Co. He suffered financial reverses in the crash that overcame Frank A. Magowan, in the Trenton rubber industry, for whom he had been a heavy endorser.

William H. Skirm in 1860 joined Company A, an independent military company which became subsequently part of the National Guard, State of New Jersey, and was successively lieutenant and captain. In 1900 he was made colonel of the Seventh regiment, and later on retiring was commissioned brevet brigadier general by Governor Voorhees. He was for many years active in politics as a Republican, serving for a number of years in the Trenton common council and for six years in the state senate, of which he was an influential member and for one year president. He was a delegate to two Republican national conventions and to many state and local conventions. He was an active member of the First Methodist Episcopal church, being for a long time treasurer of the church corporation and a superintendent of the Sunday school. For 20 years he was treasurer of Pennington seminary, under the direction of the Methodist Episcopal conference, and at the time of his death was secretary of the Ocean Grove Camp Meeting Association.

General Skirm is survived by his wife, a son, Captain William H. Skirm, Jr., and a daughter, Mrs. Robert H. Ingersoll. The funeral on October 9 was private, services being held at the Skirm residence and the interment in Riverview cemetery.

* * *

THEODORE VAN RENSSELAER BROWN, treasurer of the Martin Cantine Co., of Saugerties, New York, died on September 29, in his fifty-fifth year. He was born in Columbia county, N. Y., and for a number of years was Canadian agent of the Goodyear Rubber Co. with headquarters at Montreal. The Goodyear Rubber Co. of Canada, Limited, were formerly the selling agents in Canada of the Goodyear Rubber Co. (New York). The title and good will were in time transferred to the Granby Rubber Co., Limited, who still keep the title alive.

GUTTA-PERCHA FROM THE PHILIPPINES.

THE *Nevada*, a sailing vessel, reached New York in July, 1903, chartered by the Sulu Trading Co. (San Francisco) trading in the Philippines, its cargo containing copal, mother of pearl, and 3 tons of Gutta-percha. Messrs. W. R. Grace & Co. (New York) advise THE INDIA RUBBER WORLD: "A portion of the lot of Gutta-percha mentioned has been sold, and we know of no later arrivals from the same source." A like report comes from London, where the Sulu company also placed some material. The Sula company inform THE INDIA RUBBER WORLD: "Our venture was a losing one, and the company is practically disorganized. So far as we are informed there is no India-rubber in the Philippine islands; there are quantities of gutta, but it does not find purchasers."

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

IT has been my practice for some years past at this season of the year to give my readers some account of the rubber industry as existing in the particular part of Europe visited. At the request of our Editor to add to my former series of observations I noted this down as one of the subjects to engage my attention. However, I may as well say at once that the result is practically *nil*. If I was writing for the *Gun Maker's Journal* on the subject of revolvers, or for a tobaccoist's paper on the cultivation of the narcotic weed, I could find plenty of material, but as it happens the rubber trade was hardly at all in evidence. There are no rubber factories in Bosnia, the Herzegovina, Dalmatia, Montenegro, or Albanian Turkey, and the exigencies of rapid transit did not permit of any visits being paid to factories in Germany, Austria, or Hungary. Some of the inhabitants of the above countries may have possessed macintoshes or rubber boots, but I do not remember having seen anything of the sort in the extremely hot weather which prevailed all the time. From this point of view it is perhaps rather unfortunate that my tour occurred in the driest season for fifteen years and one of the hottest within living memory. At Serajevo, the very Mohommedan capital of Bosnia, I saw in a shop window advertisement cards referring to the galoshes of the Russian-American India-Rubber Co., of St. Petersburg, and the Liverpool Rubber Co. I may remark incidentally that the Servian language and alphabet being so closely allied to the Russian makes business more easy for the Russians than for the British whose language is not understood at all in the large area over which the Servian Croatian languages extend. You meet plenty of men in the Near East who own up to seven or eight languages, but English is not one of them. Recent statistics show that the value of British rubber goods exported to Bosnia is very trifling and owing to a quite recent change in personnel at the consulate in Serajevo I was unable to get any ideas as to whether an improvement might be expected. As regards Montenegro there was little in the appearance of the bronzed warriors of this mountainous land to warrant the assumption that the opening of a macintosh and galosh store in the village capital would meet with much financial success.

IN the last issue some detailed information was given with regard to a process for treating rubber scrap at present under trial in France. In case any confusion may arise as to the particular patent I may say that it is of French origin and is quite distinct from the French patent No. 345,926 granted to H. Pen-ther, a German. I might also say that the French patent No. 351,152 granted to Wilkinson, Gubbins, and Quin, in May of this year, has nothing in common with those just referred to. In reality it is the 1902 patent granted to R. R. Gubbins for his special machine for separating fiber and metal from old mechanical rubbers. It was found that the machine, though amply proving its value, could be improved in some respects and the name of Wilkinson and Quin were added to that of the original patentee in connection with the French and other foreign patents, the former of these gentlemen being a resident in France. The above will serve to put straight any misunderstanding which may have arisen as a result of my previous communication. Turning to the subject generally the editorial on reclaimed rubber in the September issue of THE INDIA RUB-

BER WORLD sums up the position appositely. At no previous time have the prices of scrap rubber ruled so high* nor has the energy of collectors ever made itself so apparent. Of course a fall in the price of raw rubber might make a material difference in the activities of the numerous collecting agencies but it may be taken that the good old days when scrap rubber could be had for the trouble of removing are gone never to return. While goods bearing the names of well known continental rubber factories are commonly met with in our collectors' yards a good deal of British waste rubber goes to Germany and in connection with this foreign business there are financial backings which put some collectors in a much more favorable position than others. An article which is always in demand but of which the supply is limited is the diving dress. These have to be carried by every man-of-war though I don't know what the case is with regard to other sea going vessels. The best rubber is used in their manufacture and the discarded goods do not usually show much sign of deterioration.

SECRET processes in connection with rubber are often brought before the uninitiated as being a rapid means of acquiring wealth. The latest thing of the sort which has come

PONTIANAK. under my ken is the suggestion to extract the rubber from Pontianak by means of a chemical process. I have nothing personal against the inventor or the process; I am merely skeptical as to how the operation can be made a commercial success taking into account the cost of chemicals, labor, etc., and the low value of the rubber recovered. I am informed that a well known cable company has paid a considerable sum for the right to use the process and is perfectly satisfied with the deal. At the same time I know of other capitalists who after having experiments conducted came to the conclusion that the prospects of wealth to be obtained by working it were altogether illusory. As regards its resinous and rubber contents Pontianak is much on a par with potato rubber, or *Euphorbia* gum, as it is also called, and it is difficult to understand how the small amount of rubber present in either case can pay for its extraction unless the resins are found to have a good market value.

A WRITER in our London contemporary, in discussing the disadvantages of the cold cure, recommends the wider adoption of the chloride of sulphur vapor cure. In my experience this has been employed mainly in two cases, viz.: tobacco pouches and dress preservers. In the former case uniform results were always obtained, but with the latter this was not so easy of attainment, and now and again considerable trouble arose through acidity developing. Of course the ammonia treatment now so generally adopted may be an entire preventive of this, but all the same I don't think there is any disposition on the part of manufacturers to adopt the chloride of sulphur cure except where it is necessary. In the case of the tobacco pouch the rubber is thicker than in the dress preserver and the vulcanization effected is but skin deep. In applying the process it is usual to have large rectangular cupboards made of wood with sliding front doors; the pouches are hung on wooden rods and there are steam pipes underneath to evaporate the chloride and keep the temperature up to the necessary de-

* This relates of course to the British market as distinct from the American.—THE EDITOR.

TRAVEL
NOTES.

RECOVERY OF
VULCANIZED
RUBBER.

gree. Some years ago in certain cases where it was considered necessary to cure in the cold it was customary to use some strong nitric acid to volatilize the chloride; but of course this was a chemical requiring very careful use and it is not now I believe to be met with in this connection. Metal work soon gets corroded by the chloride and especially is this the case with galvanized iron; other objections to the chloride are its small and corrosive vapor and there is but little disposition to extend its application. A good many tobacco pouches are now made of sulphured sheet and vulcanized in steam; especially is this the case with the well known Crocodile red pouches of Messrs. Warnes. It is generally recognized that the steam cured pouch is more lasting than the vapor cured, especially as regards liability to split at the joints. The advocate of the vapor cure admits that African rubbers require more chloride than does Pará and I should think that the difficulty in the way of deciding what is the right amount to use is against the process. All my experience of the vapor cure has been connected with fine rubber alone and here the results were always sufficiently uniform.

AN interesting article appears in the last issue of this Journal relative to dust removed by the vacuum process. This has

EXTENDED USE OF RUBBER HOSE.

now become firmly established in England, more particularly perhaps among the larger householders to whom the item of expense is not a matter of great importance. In the towns, it may be mentioned, some little trouble has arisen because of people objecting to the thumping of the machinery while the house cleaning is in progress. The point, however, which I mainly wish to refer to is the suggestion that rubber hose has a large field of development, not only with regard to vacuum cleaning but especially in the way of laying dust in coal mines by the water spray. At first sight the idea seems an admirable one; it would undoubtedly tend to lessen the dangers of fiery mines, but then there is the new and dreaded disease ankylostomiasis, or miner's worm, to be considered. This has long been prevalent in certain German mines and of late years has caused British mine inspectors a good deal of anxiety. In order to combat its powers of evil it is recommended to keep the workings as dry as possible, so it will be seen that the enthusiast in mine hygiene is on the horns of a dilemma. As regards street watering in towns the water cart in general use in England does not bring much grist to the rubber manufacturers' mills. In the large continental towns I recently visited, notably Vienna, Budapest, and Agram, the street watering is all done from stand pipes to which are connected long lengths of rubber hose. In the Bosnian towns is to be seen the somewhat primitive arrangement of a water barrel on wheels behind which a man walks with a hose-pipe fitted with a hose. In Montenegro dry sweeping is occasionally indulged in, but the fastidious might urge with truth that a water cart of some sort would greatly benefit the principal street of the capital in dry weather.

ON information which appeared to me conclusive, I referred in the September issue of THE INDIA RUBBER WORLD to the

MR. J. K. BURBRIDGE.

retirement of Mr. J. K. Burbridge from the firm of Messrs. William Warne & Co., Limited, of Tottenham and Barking. Mr. Burbridge, however, informs me that he is still very much in existence in his old position and that the reports which had got into circulation had reference to a brother of his who had no connection with the India-rubber works. I must express my regret to Mr. Burbridge for the mistake, while nursing my resentment against certain parties who shall be nameless in that they were though doubtless unintentionally the cause of my falling into error. I may mention that Mr. Burbridge's withdrawal from the post of

scientific abstractor for the Journal of the Society of Chemical Industry was largely due to the other demands upon his time.

FROM what I can gather there is no chance of the proposed reduction of capital meeting with the assent of the preference shareholders. [See THE INDIA RUBBER WORLD, August 1, 1905—page 383.] It is necessary for £200,000 of preference capital to agree before the reduction can be carried out and the difficulty of the situation is augmented by the fact that the preference shareholders are to a great extent Irish. The excellent trading results shown by the company of course largely reduce the importance of the contemplated step, and it will probably be found that things will go on as before.

MESSRS. BOURNE BROTHERS, of Harpenden, have recently put down an extensive plant for making and repairing motor tires. They will also supply rubber strip, etc., to cycle repairers. It may be mentioned that a controlling interest in the firm as newly organized is held by Messrs. A. C. Baber & Co., of Bucklersbury, London, waste rubber merchants, whose name was mentioned in this Journal last month in connection with the bankruptcy of Mr. A. V. Stephens.

NEW FIRM.

THE Unity Rubber Co. was registered in London September 12, with £33,000 capital in £1 shares (30,000 preferred ordinary and 3000 deferred ordinary). The directors are G. C. Mandleberg, H. L. Rothband, and S. L. Mandleberg, all connected with J. Mandleberg & Co., Limited, of Pendleton, Manchester. The object is to acquire and operate the plant of The Hyde Rubber Works, Limited, at Woodley, Cheshire. The fact that this property has been taken over by Messrs. Mandleberg will not surprise a good many in the trade as it has for some time been thought probable. The well known waterproof firm have for some time been looking out for suitable premises in which to carry on the mechanical rubber industry and their business reputation should enable the new Unity Rubber Co. to achieve greater success than has of late years been associated with the Woodley factory.

HYDE RUBBER WORKS.

THE following paragraph in the London correspondence of a Lancashire paper of some note is so interesting that it seems worthy of reproduction in full:

AN ITEM OF INTELLIGENCE.

A CURIOUS TRADE.—A curious form of money making is adopted by a London firm. Ragpickers and others bring them goloshes and rubber heels that have been thrown away. These are sent to America to be converted to other uses, the Guttapercha of the goloshes being especially adaptable after a secret process of treatment.

It is noteworthy that whenever the staff of a daily paper get on the subject of rubber they usually fall into egregious errors. It may be the samewith other technical matters, and my experience of the rubber scribe will make me cautious as regards technical news generally. I remember discussing the Pacific cable a few years ago with a leader writer on a daily paper, and advised him to submit his proof to me for correction. This, however, he omitted to do, and I was not surprised to read some comments on the cornering of India-rubber at Singapore. There is no need to multiply instances such as this, they are too common; but it is permissible to express regret that the general writer is so careless in seeking assistance when he is dealing with topics which he does not understand.

AIR BRAKES.—An official statement from Washington mentions that 1,845,304 locomotives and cars were in use on American railways on June 30, 1904, of which 1,554,772 were provided with air brakes, calling for very much rubber hose.

CLEANING BUILDINGS BY SAND BLAST.

IN a previous article THE INDIA RUBBER WORLD described the various methods employed in cleaning carpets, furniture, and the interior walls of houses by means of the vacuum and compressed air processes. It was shown that by the use of certain apparatus all the accumulated dust was literally pulled out of its place of lodgement and whisked away through a line of rubber hose to a receptacle outside of the building without causing the housewife or the occupant of the offices where the work is done the slightest inconvenience.

For cleaning the exterior of buildings an entirely different process is necessary, for something beside dirt and dust must be removed from the stone surface. In order to give the building that has been exposed to the storms and the sunshine for 15 or 50 or more years a fresh, clean appearance, similar to that which it had when first erected, the surface must be scoured with sand. Previous to the invention of the sand blast attempts were made to remove the marks of the weather by scrubbing the stone with soap and water or with chemicals in which acids had been dissolved. The results were not usually very satisfactory. The surface was often left streaked and discolored so that its appearance was worse than before.

It was quite evident to architects who had studied the matter that a different process would have to be employed if the work was ever to be done in an artistic and satisfactory manner. It was a long time, however, before human invention hit on the right way of accomplishing it.

For many centuries the Arab in crossing the desert with his camels had looked upon the monuments of the ancients and had seen that the sand which was blown hither and thither by the winds was gradually cleaning and polishing their surfaces. This fact meant nothing to him because he was satisfied with his manner of life, and therefore made no effort to improve his condition. He would not know how to apply a scientific fact to the betterment of himself or his people.

But one day an American who was journeying across the arid waste saw what the Arab had observed, and it gave him an idea. If the wind can drive the sand against a stone and polish its surface, why couldn't compressed air be made to do the same thing? The more he thought about it the more certain he became that such a thing was possible.

When he arrived home in the United States he began work on an invention which finally became what is now known as the Sand Blast. It was a crude affair at first but was afterwards improved by scores of inventors until it is now very nearly perfect.

The first and principal use to which it was put was the removal of weather stains from the exterior walls of buildings. It did its work so quickly and so well that the men who brought it into use soon found that they had in their possession a big money making device.

There are now several companies in the field with sand blast cleaning processes. One of the most successful is the American Diamond Blast Co., of which Franklyn M. Wise is president, with offices at No. 114 Liberty street, New York. This company is the owner of the Shaver sand blast machine patents in the United States, Great Britain, Ireland, Germany, Austria, and Belgium.

The apparatus employed consists of a portable air compressor to which are attached as many lines of rubber hose as are necessary for the work that is being done. For eight nozzles

through which the sand is blown upon the stone surface five lines of $\frac{3}{4}$ inch hose are necessary. After leaving the compressor the air is forced through a sand reservoir where it picks up a quantity of sand and forces it out of the nozzles at a pressure of 200 atmospheres. The sand cuts the surface of the stone and removes an infinitesimal layer of its substance and with it removes all stains, whether of weather or rust or other discolorating elements.

The men who operate the sand blast nozzles are specially dressed for the work. Over their heads they wear helmets to protect their eyes, nostrils, and face from the particles of sand which might otherwise cause them untold agony. Over their hands they wear soft gloves, which must necessarily be pliable. The swing scaffold upon which the workmen stand is hooded above and below so that the flying sand will not fall on pedestrians passing along the street below. The sand is collected in the lower part of the hood and conducted through a canvas tube to the ground. On a large job 15 men are required to operate the portable plant. Each man can clean about 500 square feet of surface a day.

Much of the success of sand blast work depends upon the kind of sand used. Clean beach sand is not as effective as mineral quartz owing to the fact that it may contain particles of iron and moisture. If it contains iron the surface upon which the sand is used will after awhile become streaked with rust stains. The mineral quartz sand is, however, entirely free from iron and possesses greater cutting power because of the sharpness of the edges of the particles.

The American Diamond Blast Co. has during the past few months cleaned a number of notable buildings in New York. Among them are the Bowling Green building, the County Court house, the Hotel Majestic, office of J. Pierpont Morgan & Co., and the Alexander residence, at Fifty-eighth street and Fifth avenue.

The sand blast has many other uses besides cleaning the outer surfaces of stone buildings. It is employed to remove barnacles from the bottoms of ships and rust scales from iron bridges. The Erie Railroad Co. recently had all of the bridges on its line between New York and Port Jervis cleaned by this process.

It is also used to get a proper surface for holding concrete when laying foundations in damp places below the level of the ground. It removes moisture, grease, or dirt that may be upon it and thus give the concrete a chance to get a grip on the rock. Another use to which the sand blast is put is bonding copper bonds to steel rails in laying electric railroad tracks.

Without doubt other ways for utilizing the sand blast will be discovered from time to time. Already the demand for rubber for this new use has become important, and it may reasonably be expected to grow in extent. FRANK L. BLANCHARD.

VULCANIZATION.—Ex-Governor A. O. Bourn, president of the Bourn Rubber Co. (Providence, Rhode Island) has for several years past been trying a great variety of experiments in vulcanization. To show the range of his work, two extremes may be noted. He has certain samples of compounded rubber containing no sulphur, that were left in dry heat 211 days at a temperature of 105° F. and which were thoroughly vulcanized. The antithesis of this was a compounded stock that vulcanized in dry heat in $\frac{1}{4}$ minute at 286° F.

WOMEN'S WORK IN RUBBER FACTORIES.

AN investigation of injurious and dangerous trades in which women are employed is being conducted by a joint committee of the Massachusetts State Federation of Women's Clubs and the Women's Educational and Industrial Union of that state. A recent issue of *The Federation Bulletin*, the organ of the associations mentioned, contains a report by Mabel Parton, the agent of the committee, on "Women's Work in Rubber Factories: Its Effect on Health," which will be briefly summarized here.

The investigation related to twelve rubber factories, engaged in the production of (1) shoes, (2) garments, (3) light rubber goods, and (4) hose. Mention is made of "whatever has been observed which may have hygienic significance—conditions peculiar to special processes and others common to nearly all women's work on rubber."

All but a few of the women in the factories reported on handle compounded rubber before vulcanization, and these compounds include oxide of lead or similar material. As none of the factories visited provided lunch rooms, and not all of them furnished adequate washing conveniences, many of the women ate their noonday meal at the work benches without first having washed their hands.

"In a few processes," says the report, "the women take the material into their mouths. Makers of footballs 'finish off' by sucking the air, and incidentally bits of waste from inside the balls to make them lie flat. I find also that girls in the picking room at one of the factories assist with their teeth in picking off scraps of good rubber from the 'wobs' of cements, varnish, and waste discarded in the cutting and making rooms. Some of the girls at several factories have acquired the habit of chewing the soft rubber."

Fumes of naphtha pervade the air of the work rooms, the soft rubber out of which many articles are made coming to the workers who finish them, already stamped or cut into shape, the parts being pressed together by hand and united with a cement in which naphtha enters. "There has been some reason to fear," says the report, "that manufacturers are using carbon bisulphide with the naphtha for heavier cement, but I have been unable to detect it in any of the factories I have visited." The naphtha fumes are present, however, in nearly all of the women's rooms, and those who do not actually use the cement—garment stitchers, for instance—work in rooms where the cement is used by others and breathe in the gas all day.

"The women who make light rubber goods," it is said, "constantly inhale a fine talc dust. The talcum is used to keep small parts from sticking to the hands, or to each other when they are packed for vulcanizing, and is so fine that it flies at a touch.

"The shoe making seems to necessitate a pressure against the bodies of the workers. The parts of the shoe are laid over a wooden boot form and the soft edges of the rubber are pressed together. In doing this the maker pushes the form hard against her body—first the heel and then the toe is directed against the pit of her stomach. Some of the women wear pads of cloth or leather to protect themselves, but these shields are soft or soon become soft, so that while friction may be prevented, the pressure is not diverted from the one small spot."

Mention is made of the custom in most of the factories visited of women working practically throughout the noon hour, either to get out earlier at night, to finish their "tickets" during the day in case of slow hands, or to make extra wages. Whatever the object, however, the workers over time lose the

fresh air and relaxation in the middle of the day.

Miss Parton was struck with the pallor of the rubber factory women, and from talking with them she learned that they often suffer from headache, nausea, and loss of appetite when they first begin work in rubber factories, and that while the symptoms apparently may pass in a few weeks, they are likely to recur on a return of the workers after an absence. Some of the girls with whom Miss Parton talked never feel quite well while they are at the work. Seventeen physicians in rubber factory towns were interviewed, most of whom have found common among rubber factory girls special diseases due particularly to (1) fumes arising from manufacturing processes, (2) the pressure of the boot form, and (3) the lack of proper nooning.

One of the physicians who has had a large practice among rubber factory operatives for the past 25 years, as well as among operatives from a twine factory nearby, finds that the women from the rubber factory suffer to an unusual extent from anæmia, with resulting dysmenorrhea, and attributes this from fumes that are breathed in during working hours. Dr. Fred-eric Coggeshall, as physician in charge of the nervous clinic of the Boston Dispensary, told Miss Parton that he found that one-thirteenth of all the factory girls treated worked in some branch of a rubber factory; that certain forms of functional nervous diseases are very prevalent among this class; that these complaints are closely connected with their breathing the fumes of naphtha and carbon bisulphide. He believed the work to be decidedly injurious to health, and so far as the marked symptoms go that chronic poisoning with these objectionable gases, especially perhaps the naphtha, is the principal cause.

With regard to a modification of the conditions outlined, it is pointed out naphtha fumes can be carried off through registers placed in the floor and connected by pipes with suction fans, as has been proved by one rubber factory in Massachusetts in a garment room where large quantities of very heavy cement are used. Talcum powder could be treated in much the same way, though troughs at the back of work benches, such as are to be found at hand sorting rooms in flax mills, would be better for the making rooms than the floor register.

"Shoe workers," it is said, "could be greatly relieved of the pressure of the boot form by use of proper shields. The shields sold by one of the shoe factories to its employés are right in principle, but they do not stand wear. They are made of stiff leather and slightly concave, so that the part which comes directly over the pit of the stomach scarcely touches the body, and pressure is thus diminished and distributed. But leather gives way quickly and becomes soft at the pressure point. A shield built on this principle, of material which would bear the strain, should answer the purpose. It is not necessary in any of the work to put the rubber into the mouth, and the rubber chewing habit is of course, under the control of employés."

It is pointed out that the conditions of eating with unwashed hands and working at noon are only partially within the control of the employés. Even if noon time work is nominally optional, it may be actually necessary, owing to the size of the tickets given out, in connection with the speed of the operatives. It is at present against the law in Massachusetts for a woman or minor to work during the midday recess, but the law is practically inoperative among the hand workers because it fails to fix responsibility for its enforcement. Miss Parton advises the repeal of the law which exempts employers from responsibility for work done by women and minors at noon time.

DRAWING FOR A PAIR.—Lost.—On the Clifton pike, one rubber boot. Will buy or sell.—*Versailles (Kentucky) Sun.*

CAUCHO AND "CASTILLOA ULEI" WARBURG.

By Dr. Werner Esch (Hamburg).*

OPINIONS as to the tree yielding the so-called "Caucho," or Peruvian balls, of commerce have heretofore been very much at variance. It was supposed by some that *Hevea*, *Cameraria latifolia*, and *Hancornia speciosa* yielded the Caucho,† while Henriques‡ cited reasons which made him doubt the existence of either *Hancornia* or *Castilloa* on the eastern slopes of the Andes. The recent explorations of Dr. Ule have established beyond a doubt that *Hancornia speciosa* exists on the eastern slopes of the Andes, in the Amazonas district of Brazil, and on an area much larger than heretofore supposed; and, also, that Caucho is obtained from a species of *Castilloa* heretofore unidentified. This species was named *Castilloa Ulei* by Dr. Warburg.§

In Ule's description of the manner in which raw Caoutchouc is gathered, I notice the singular statement that supposedly the larger part of Caucho, after its separation with a soap solution, is formed into *planhas de Caucho*—broad, flat cakes, and that some of the *caucheros* coagulate the latex by exposure to the air. Rolled up strips of this Caucho are placed on the market as a higher priced *sernamby de Caucho*. So far as I have been able to inform myself by reading, and by what I have gathered by conversation with presumably informed persons, Peruvian rubber is put on the market principally in the form of balls, in Hamburg and in all other markets. The balls are generally, though not always, in form of lumps wound with strips, giving them a characteristic appearance. The inner part of the ball, on being cut through, shows also a characteristic conglomeration of more or less pale layers. This layering is found not only in the Peruvian slabs; more prominently is the similarity noted between Peruvian balls and those originating from *Castilloa elastica* in Ecuador, and Colombian balls and sausages.

This relationship is not confined only to the superficial appearance but also to the chemical data of washed samples and to the nearly identical rapidity of vulcanization. Further, it is not a single *Castilloa* species|| but it is stated that quite a number exist which furnish the Caoutchouc of this kind. The similarity is not a new discovery of mine, but is well known in the trade. This is furthermore endorsed by a published statement:¶ "The physical characteristics of Caucho in the main are the same as in the Central American rubbers."

The statement made by Ule, that the "*planhas de Caucho*" are formed by simply coagulating the latex with soap and vegetable juices cannot, on account of the well known appearance of Peruvian slabs, be accepted unconditionally, because, when cut, their resemblance to those of balls is too apparent. About a year ago I had an opportunity to obtain for a rubber factory here a lot of Peruvian balls, which lot contained, besides the normal balls, exceptionally large loaves—a description of which I deem advisable here, to make the reason of their presence more clear. Ule's description of the manner of obtaining Caucho would be in excellent accord with the appearance of these loaves.

The above mentioned crude rubber firm imports from year to year large quantities of Peruvian balls, but the official of the firm from which I obtained the lot had never, in many years' experience, seen similar loaves in Peruvians, neither in slabs, and others of whom inquiry was made had never known such loaves to exist, which in quality were far superior to the regular Peruvians. The loaves were, in size and shape, like the ordinary Matto Grosso Pará, possessing also the faint cheese odor of Matto Grosso Pará, which after vulcanization changed into the pleasing odor emitted by bread in process of baking. On being washed a loss of 26 per cent. was noted, the compact blocks, which had only small traces of admixed dirt, containing a quantity of water. The cut surface did not show the yellow spots generally found in Matto Grosso Pará. The large black beetles, with their hard shell wings, which cause so much annoyance in washing, were also absent. The appearance and characteristics of the washed loaf Peruvian were of such similarity of Matto Grosso Pará as to eliminate all doubt of its being readily worked up as Matto Grosso Pará, even in respect to the more rapid vulcanization which Matto Grosso Pará possesses over regular Peruvian.

It is hardly necessary to mention that this irregular Peruvian consignment found ready takers and that endeavors were made to obtain regular consignments of this fine material, but, to the best of my knowledge these have been in vain. It may also be mentioned that in the same lot were some pieces which had to be designated as slabs; this seems to me to be of importance in order to judge correctly the matter in question, because it convinces me all the more that the loaves and slabs are not of an identical nature. Slabs are inferior to balls.* The loaves are no doubt much superior to the best Peruvian balls.

I would like to meet here the objection made that at times Peruvian balls possess also pale outer skins. In the first place this occurs rarely, and secondly these skins are materially darker than those of the before mentioned loaves and of Matto Grosso Pará. It is most likely that in my large circle of readers these lines will come before the eyes of some one prepared to shed some light on this subject. For the sake of curiosity it may be mentioned here that an English firm—i. e., its representative—contends that Caucho and Peruvian balls are not alike, but that Caucho is the prime quality and Peruvian *quasi* a second quality. Of course the poor buyer is expected to believe this and to take without hesitation, at a higher price, "Caucho balls" instead of "Peruvian balls."

Like a rare bird, some time ago, a lot of smoked Colombians arrived here—a *Castilloa* Caoutchouc of light yellow-brown color, of pleasant odor, and easy of vulcanization. The Caoutchouc consisted of balls of about 50 kilograms in weight, which seemed to have obtained their shape by having been treated in the same manner as ordinary Peruvian balls—strips of Caoutchouc and some adhering pieces of wood being, like intestines, pressed together, after which the large lumps were sewed in bast mats and smoked like hams. The cut surface of these lumps resembled much the cross section of Peruvian balls, with the difference that in these Colombians the outlines of the several Caoutchouc strips were light yellow and therefore very indistinct. No information could be gained from the English importers in regard to this beautiful lot, except that it was just

* Translated from *Gummi-Zeitung*, Dresden, Jahrg. XIX (1905), P. 1121.

† Franz Clouth, "Gummi, Gutta-percha und Balata," Leipzig: 1870, P. 57.

‡ "Der Kautschuk und seine Quellen," Dresden: 1899, P. 12.

§ *Gummi-Zeitung*, Dresden, Jahrg. XIX (1905), P. 962. [Also THE INDIA RUBBER WORLD, May 1, 1905, P. 5.]|| In American dissertations *Castilla* instead of *Castilloa* is often used, and the former, it is claimed, is the more correct.

¶ Henry C. Pearson, "Crude Rubber and Compounding Ingredients," New York: 1899, P. 13.

* See Henry C. Pearson, P. 13.

by chance that such a fine consignment had got into the market, and no hopes were entertained of seeing a like one within the near future. The process of smoking had left but little water in the Caoutchouc and the loss in washing was just 10 per cent. The color of the washed skin was like that of Pará, and had an agreeable smoke odor, quite different from that of Pará.

With these statements I endeavor to pursue the object to arouse those who are influential in gathering *Castilloa* Caoutchouc of so valuable, dry, not foul smelling quality, to produce these sorts for which the rubber manufacturer finds a larger field of application, their light color being of especial value in the manufacture of colored rubber goods. The manufacturers pay for such *Castilloa* Caoutchouc materially higher prices, and therefore, the careful preparation of the Caoutchouc milk will certainly pay well for the extra care.

* * *

WHAT are described as "loaves" (*brote*) in the preceding article refer evidently to the form of Pará rubber described in English speaking trade circles as "biscuits" or "hams" being the aggregations of rubber coagulated by the smoking process on wooden paddles and sometimes attaining a very large size. The word "loaves", however, is not a common trade designation in England or America. It does not seem to have been proved by Dr. Esch that the unusually excellent lots of rubber mentioned by him as coming from Peru and Colombia were derived from trees of any *Castilloa* species. As is well known, considerable *Hevea* rubber is now derived from Peru, and the similarity noticed of Peruvian lots to "Matto Grosso Pará" indicates that certain rubbers referred to may not have been *Castilloa* rubber at all, but *Hevea*. Likewise the excellent Colombian rubber may have been from some species of *Sapium*. Or, it may have been *Castilloa* rubber from planted trees, the owners of which coagulated it with unusual care, comparable with that which the planters of Ceylon and the Malay States give to the latex of *Hevea Brasiliensis*. While Dr. Esch leaves a number of points in relation to *Castilloa* rubber unsolved, the rubber trade is to be congratulated upon the fact that investigators of his ability are devoting so much energy to efforts to determine the sources of commercial rubber and the conditions under which it is prepared for market.—THE EDITOR.

CRUDE BALATA DUTIABLE.

THE collector of customs at the port of Norfolk assessed for duty, at the rate of 35 per cent. *ad valorem*, an importation of so called "sheet Balata" made by Castner, Curran & Bullitt (New York), who filed a protest, claiming the material to be entitled to free entry. The United States general appraisers at New York assume that the collector's assessment of duty was by virtue of the supposed similitude of the merchandise to manufactures of Gutta-percha or what is known as hard rubber, while it is evident that the claim of the protestants of free entry is upon the assumption that provision for crude rubber includes crude Balata. The appraisers' decision says:

The evidence before us submitted on behalf of the protestants, and not controverted by the government, is that the Balata in question is in the crudest possible form in which Balata is produced. It appears that the so-called sheets are obtained by tapping the Balata tree and permitting the sap to run or drop on a palm leaf or board, and, after the sap is thus spread out on the palm leaf or board, exposing it to the sunlight and permitting it to dry. The merchandise is not advanced beyond this process to fit it for any particular purpose—in short, nothing has been done to constitute the Balata a manufactured article.

The collector's classification and the importers' claim evi-

dently are based upon the idea that Balata is so much akin to rubber that for tariff purposes they are the same. The board holds, however, that while they are sufficiently alike to warrant the application of the similitude clause to articles manufactured from Balata there is a marked difference between Gutta-percha, India-rubber, and Balata, in the crude state. This difference was set forth in a decision of the general appraisers (G. A. 5098—March 13, 1902), in which decision it was also held that Balata sheets fitted for such goods as dress shields were dutiable at 35 per cent., on account of their similarity to Gutta-percha wares, no provision existing in the tariff schedule for Balata. [See THE INDIA RUBBER WORLD, April 1, 1902—page 230.] But even if the various substances named were sufficiently similar to warrant the application of the similitude clause in the event of crude rubber being subject to duty, this would not justify the application of the similitude clause in this instance because crude rubber is in the free list. The appraisers, therefore, hold the collector's classification to be erroneous; since crude Balata is not elsewhere provided for in the tariff it must be regarded as an unmanufactured article not enumerated, dutiable at the rate of 10 per cent. *ad valorem* under the provision 6 of the tariff act of 1897.

Members of the trade interviewed by THE INDIA RUBBER WORLD intimated that importers of block and sheet Balata would protest this duty, though no action would be taken by any one until he had made an importation and a duty had been assessed. It is not doubted that the framers of the tariff act regarded Balata as included in "India-rubber and Gutta-percha," and therefore entitled to free entry, but the customs authorities having decided that Balata is neither India-rubber nor Gutta-percha, and Balata not being specified in the "free list," evidently the appraisers have no choice but to assess the 10 per cent. rate as above reported.

THE NEWEST ATLANTIC CABLE.

THE fifth transatlantic cable of the Commercial Cable Co. (New York) has just been successfully laid, the final splice having been made off the coast of Ireland on October 6, by the cable ship *Colonia*. The new cable is reported to be of the best and most expensive type of submarine cable ever laid. It was manufactured by the Telegraph Construction and Maintenance Co., Limited (London), having been begun in March last and shipped on board their 7976 ton steamer *Colonia* on August 5. Atlantic cables are laid from west to east, because of the direction of the prevailing winds, and ships make better speed going eastward. This is why the *Colonia* began laying the cable from the Nova Scotia coast. On October 3 she arrived at a point 187 miles from the coast of Ireland, where the final splice was to be made with the cable previously laid from the Irish coast by the steamship *Cambria*. At some points the new cable was laid at a depth of nearly three miles below the surface of the sea. The quantities of material used were 1,411,200 pounds of copper; 799,688 pounds of Gutta percha; 16,845,000 pounds of brass tape, jute, yarn, iron wire, and preservative compound. The cost of the cables varied from \$1000 to \$6000 per mile, according to the different requirements at different depths and character of the ocean bed. The signal and speed of this cable is said to be 15 per cent. greater than that of any other cable of equal length in the Atlantic. The two transatlantic cables of the Deutsche-Atlantische Telegraphen-Gesellschaft between Germany and New York work in direct connection with the lines of the Postal Telegraph Cable Co., which gives the system 7 ocean lines, all duplexed so that their combined capacity is 14 messages at one time.

RUBBER CARGO LOST ON THE AMAZON.

THE Booth line steamer *Cyril*, bound from Manáos for Liverpool, with 210 tons of rubber on board, was lost on the Amazon on the morning of September 6, in a collision with the steamer *Auselm*. The occurrence was in the bay Curralinho, near the town of the same name on the great island of Marajó, and about 93 miles above Pará. Both ships were under the control of Brazilian pilots, whose seemingly misunderstood the signals given while rounding a small island, and the result was that both ships steered for the same point, and before the *Cyril* could cross the bow of the *Auselm* she was rammed, and sank within 45 minutes in about 70 feet of water, capsizing as she went down. The *Auselm* was seriously damaged and had to put back to Pará. No passengers were lost or injured, and no passengers' effects were lost. The *Cyril's* manifest showed the following details regarding the rubber carried:

SHIPPERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
Scholz & Co.	58,680	12,387	20,802	3,600	95,469
Dusendschön & Co. . .	31,628	8,985	829	41,137	82,579
Aldelbert H. Alden. .	17,020	3,075	5,290	205	25,590
Ahlers & Co.	4,056	91	567	....	4,714
J. H. Andresen, Suc. .	1,440	160	690	....	2,290
Total.	112,824	24,698	28,178	44,942	210,642

The Booth company advise THE INDIA RUBBER WORLD: "The latest information we have is that the Liverpool Salvage Association were sending out the steamer *Ranger* in the hopes of salving the rubber cargo on board the *Cyril*. We understand that they have with them all the modern appliances for this class of work."

There was no perceptible fluctuation in the New York market for Pará rubber on account of the loss of the *Cyril*. The price stiffened in England for a few days, but did not hold.

PERILS OF NAVIGATION ON THE AMAZON.

[FROM "FOLHA DO NORTE" (PARÁ), SEPTEMBER 18.]

THE *Cidade de Manaus*, the despatch boat belonging to the Amazonas government, entered our port yesterday at 1 P. M. The voyage was anything but auspicious, for, besides running aground, the vessel was in danger of foundering. While crossing from Catahú to Cossary, the boat encountered a severe storm, resulting in serious damage to the commander's cabin, which made it necessary to strengthen it by means of cross-beams. The *Cidade de Manaus* battled with the severe storm for 20 minutes.

After passing through this first peril, the despatch boat continued on its course until 9 P. M. on the day before yesterday, when it ran aground at a small distance below the island of the Mucuras, but on this occasion escaped sinking. The *Cidade de Manaus* was in this dangerous position when the *Cassiporé* passed. It was decided to ask for assistance and a boat was despatched for that purpose. While all those on the *Cidade de Manaus* expected the *Cassiporé* to render some assistance, her captain sent word that he could not do so, as he had no time to spare. The *Cassiporé* thereupon continued on its course, leaving the boat in its dangerous position.

Later on, the *Fagundes Varella* passed by, and was asked for assistance. Her captain at once stopped his engine and sent a boat to inquire what had best be done. When he had been advised of the circumstances, it was agreed that the *Fagundes Varella* should cast anchor and wait until the next day, to see whether the *Cidade de Manaus* would get off of her own account.

If he was able to do so, the captain of the *Fagundes Varella* was to receive 1000 milreis [= \$334.60, exchange at 17 pence], while, if it should become necessary to take the *Cidade de*

Manaus in tow, 2000 milreis were to be paid. Happily, at about 2 A. M. yesterday, the boat was floated through her own efforts, and the *Fagundes Varella* continued on her voyage during the morning.

The *Cidade de Manaus*, which came under the command of Mr. Francisco Antonio Ozorio, was steered by the experienced Amazonas pilot, Mr. Raymundo Cunha.

BRAZILIAN TAX COLLECTORS FIGHT OVER RUBBER.

THE Amazonas despatch boat, *Cidade de Manaus*, had on board Colonel João Baptista Faria e Souza, collector of the port of Manáos, and Dr. Amaro Bezerra, a well known lawyer, whose visit to Pará was for the purpose of discussing the matter of the India-rubber which had come in transit on the *Eurico*, the Amazonas revenue department claiming the said rubber as the property of that state, while it was also claimed by the Federal territory of Acre.

The *Eurico* also arrived at Pará on September 17, carrying 21,687 kilograms of rubber, consigned to Messrs. Leite & Co. and Cerqueira Lima & Co.—there being 19,175 kilos of fine, 350 of coarse, and 2162 of Caucho.

On board the *Eurico* were, besides Mr. Angelo Boyma, the custom house guard in charge of the second fiscal of Iquity, Acre; Mr. Cyriaco Muniz, a treasury accountant, attached to the collector's office at Manáos; and the guard of the same district, Mr. Miguel Archanjo Monteiro, who had the rubber in their care. The rubber was stowed away in the two compartments of the hold of the vessel, the hatchways being duly sealed, as was verified by the custom house officers of Pará, when they boarded the vessel.

According to the Manáos journal *O Amazonas*, this rubber was taken on board the *Eurico* at port Cachoeira, on the river Purus, near the town of Labrea, Brazil, from the lighter *Bolívar*. The bill of lading gave the river Iquity, a tributary of the Acre, as the source of the rubber, but it is claimed at Manáos that the point on the Iquity referred to could have no communication with any locality reached by the lighter *Bolívar*. It is said that the hold of the *Eurico*, in which the rubber was stored, was sealed not far from Labrea by a person claiming to be a Federal fiscal agent of Acre.

A question regarding the rubber being raised at Manáos, Messrs. Leite & Co., owners of the *Eurico*, asked the port collector to clear the vessel and offered a deposit to cover the Amazonas state duties, in case the rubber should prove to have been gathered in that state. But the Manáos authorities replied that the rubber was not of doubtful origin; it came from Amazonas state, from a point north of the Acre boundary line. The captain of the *Eurico*, having allowed a fiscal employé of the Acre district to come within the limits of Amazonas and seal the holds of the steamer, is liable to be held as a participant in the smuggling of the goods and the penalties therefor. The rubber in dispute having been shipped as coming from Federal territory (where the export tax is 15 per cent.) though held at Manáos to have been produced in Amazonas state (where the export tax is 23 per cent.), was claimed to be smuggled goods, and treated accordingly.

* * *

THERE is constant friction between the Amazonas state and the Federal district of Acre over rubber export dues. *Folha do Norte* reported recently the seizure at Manáos of 97,467 kilos of rubber on one steamer, claimed as a state product but which was found out to have come from Acre. It was necessarily shipped from an Amazonas port, in the absence of other facilities at the point of production, but this did not make it Amazonas rubber.

THE COLORADO "RUBBER" PLANT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: We have had brought to our attention as a possible source of rubber supply the plant known as "*Picradenia floribunda utilis*," "pingue," or "rabbit weed," which plant it is claimed is indigenous to the western states and territories. If the claims made for this plant are correct, we would be interested in determining whether or not it grows in those sections of the west tributary to our lines [Atchison, Topeka and Santa Fé railway]. Before attempting to ascertain this fact, we desire to secure such information as we can concerning any tests that have been made of the rubber from this plant, and it is to secure this information we are addressing you.

We presume you are thoroughly familiar with all the facts, and if you can find it consistent to do so, would be glad to have such information as you can give us along the following lines:

First. Whether or not, in your opinion, the commercial extraction of rubber from this source is possible.

Second. The quality of this rubber as compared with the various other grades of rubber in the market.

Third. The results of any tests that have been made on this product.

Fourth. The prices such rubber will bring in the various markets.

WESLEY MERRITT,
Industrial Commissioner The Atchison, Topeka and Santa Fé Railway System,
Chicago, October 3, 1905.

We have followed with much interest and many times with amusement the claims of the western company promoters concerning the extraction of rubber from the plant known as *Picradenia floribunda utilis*. While it appears that this plant is very abundant throughout the southwest, it is yet to be proved to contain rubber in sufficient quantity to warrant its extraction. We have been open to conviction on the subject all the while but none of the interested parties in Colorado or elsewhere have brought forward the slightest proof that they have anything as worth while as yet. This plant, by the way, should not be confused with the "Guayule" plant (*Parthenium argentatum*) of Mexico, which is a rubber producer to an extent that makes its handling commercially profitable.—THE EDITOR.

THE COLORADO RUBBER GAME.

THE arrival is reported at Durango, Colorado, of three carloads of machinery from Cleveland and Elyria, Ohio, for the use of The P. F. U. Rubber Co., mentioned in THE INDIA RUBBER WORLD (August 1, 1905—page 386) as having been incorporated in Michigan with \$250,000 capital to operate under a license to Edward C. Dunbar, from the American Crude Rubber Co., a Colorado corporation, to extract rubber from "rabbit weed" (*Picradenia floribunda utilis*). Of this capitalization \$175,000 is represented by the license. Mr. Dunbar is manager of the P. F. U. company; Bethune Duffield, secretary-treasurer, and J. D. Hudson president. All these are citizens of Detroit, Michigan. The Durango Herald says that Mr. Dunbar has "moved without undue haste in the matter of securing machinery," and it hopes that the experiments to be made will make the extraction of rubber "a fixed industry" in that section. A press despatch from Durango says: "This factory when complete will be the only plant in existence of its kind and will be capable of handling from 18 to 26 tons of the weed per day."

In response to a request for further information, Manager Dunbar advises THE INDIA RUBBER WORLD: "I beg to refer you to Mr. Frank R. Marsh, of Colorado Springs, Colorado,

who will give you such information as is deemed expedient to give at this stage of the game." Mr. Marsh is the gentleman who something more than a year ago promoted the American Crude Rubber Co., on a promise to have 10 factories making Colorado rubber, within 18 months, and who was active in selling shares of stock with the help of a show window in a Denver street containing samples of rubber goods stated to have been made of the Colorado product. So far as THE INDIA RUBBER WORLD can learn, manufacturers of rubber goods were never able to secure any rubber from Marsh, and efforts to obtain from him information for publication were unavailing.

RUBBER STOPPERS AND APPENDICITIS.

TO THE EDITOR OF THE INDIA RUBBER WORLD: It appears that Dr. Pond, of Liverpool, has published in the London *Lancet* a new theory with reference to the origin of appendicitis and other disturbances of the digestive organs. He calls attention to the fact that such ailments often can be attributed to antimonial poisoning and the source of the antimony absorbed by man is said to be the rubber rings used to close all sorts of bottles. Dr. Pond seeks to establish the fact that such rings consist of almost one-third their weight of antimony. He says not only is the antimony dissolved by the mineral waters containing alkalies and organic acids, but these rubber rings, as daily observation shows, soon become brittle and some of the compound falls into the contents of the bottle.

It may be noted that appendicitis is quite prevalent in the United States, where but little antimony cured rubber ever comes in contact with articles of food. Many persons have had the disease who never used any article that had antimony in it. The first case ever brought to my attention was in 1862 or 1863, which was before the date at which antimony began to being used in connection with rubber. The disease has existed no doubt for a very long period, but in old times the patient either got well or died without the assistance of the surgeon. Now, thanks to Lester and antiseptic surgery, as soon as a person has an ache in the right side below his ribs he has to be operated upon. Sometimes they find that he has appendicitis; sometimes even that the patient has no appendix.

Dr. Pond's article reminds one of an old writer upon Chinese metaphysics. When asked how he managed to write on this subject he said that he had read up on metaphysics and also on Chinese in the encyclopedia, and had put the two articles together. So far as the rubber men are concerned they need feel no anxiety over Dr. Pond's "red rubber" scare, since they can produce rubber stoppers and rings that will answer every purpose and that can be guaranteed to be free from antimony. I think that if no one should have appendicitis until it is caused by antimony in rubber the business of the surgeons will have a collapse.

S. P. SHARPLES.

Boston, Massachusetts, October 29, 1905.

RUBBER FOR CHANNEL CEMENTS.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I am a reader of your Journal, and if it is not asking too much of a favor I would like to know what rubbers are best adapted to the manufacture of channel cements. I am experimenting on an article and channel cement answers my purpose best, owing to cost and adhesive qualities. I have tried red Massai, but it is not as strong as the channel cement on the market. Trusting you can give this information, and thanking you in advance for same, I am, Very truly yours,

V. D. P.

Akron, Ohio, October 11, 1905.

PROGRESS OF RUBBER PLANTING.

ANGLO-MALAY RUBBER CO., LIMITED.

THE prospectus of The Anglo-Malay Rubber Co., Limited, registered October 9, 1905, in London, with a capital of £150,000 [\$729,975] in £1 shares, sets forth that its purpose is to acquire and work certain Pará rubber estates in the Federated Malay States. Their aggregate area is estimated at 6331 acres, of which 1713 are under cultivation mainly in coffee and rubber. The estates are "Linsum," "Siliau," "Terentang," "Gadut," "Ayer Silolo," and "Ayer Angat," in the state of Negri Sembilan, and "Batang Kali" and "Ulu Yam," in Selangor. The four first named were amalgamated early in the year under the name Straits Rubber Estates, Limited, and now come within a larger scheme of amalgamation. The present vendor of all the properties is Herbert Wilford Brett, of Halliford, Middlesex (England), who accepts £51,000 in cash and £46,500 in shares. The first issue (London, October 16) was at par of 140,000 shares, including 46,500 to the vendor, 51,000 to produce the cash due the vendor, and 42,500 for working capital. The board embraces Sir Frank A. Swettenham, K.C.M.G., late governor of the Straits Settlements, and Mr. Arthur Lampard, of Harrisons & Crosfield, large tea and produce merchants of London, Colombo and New York. The prospectus reports the rubber trees planted on the properties as follows:

Sixteen to 20 years.....	250
Eight to 9 years.....	6,422
Seven years.....	6,081
Six years.....	34,150
Five years.....	34,615
Four years.....	3,561
Three years and under.....	120,900
Total.....	205,979

Mr. Lampard recently assured THE INDIA RUBBER WORLD of his strong confidence in the future of rubber cultivation in the Far East, regarding it as the most important future planting interest. He feels that important as is rubber already in Ceylon, it is destined to become still more so in the Malay States, partly for the reason that lands are available there for rubber which have hitherto not been cultivated, while much of the land in Ceylon already has been planted with tea or other crops. He considers the present output from the Malay States as large as that from Ceylon.

MR. BURGESS'S VIEWS ON EARLY TAPPING.

MR. P. J. BURGESS, who recently was commissioned as "rubber expert" for the Federated Malay States, at the joint expense of the local government and the planters' associations, has returned to the Far East after a visit to Europe with a view to the study of certain rubber problems which could be pursued more satisfactorily there than at home. Stopping at Colombo, on his return, Mr. Burgess was interviewed by *The Times of Ceylon*, but was disposed to be reticent on the points covered by his studies for the reason that he did not wish to anticipate a report which he will make to the government. Mr. Burgess talked interestingly, however, on certain other points. He does not share the view that it is undesirable to tap rubber trees (*Hevea*) at four years of age.

"It is really a question for the planters to decide for themselves, but unless we can show some really bad result upon the tree by early tapping, I do not see why the tree should be left alone so long. I think you will find that there is no evidence whatever in support of the idea that early tapping puts too

much strain on the tree and drains it prematurely. If I had a plantation myself, I should certainly tap early. There is a good deal of evidence against the theory of the premature strain. You cannot easily kill the rubber tree."

"But the latex would yield inferior rubber?"

"It would not be fit for the best uses."

"Would not that affect the reputation of plantation rubber?"

Mr. Burgess does not see that plantation rubber has a "reputation." The prices, as he has already explained, are really in favor of the Brazilian rubber pound per pound of real rubber, after due allowance for the weight of the moisture in the South American product.

"Besides, I don't see how it could affect the reputation of plantation rubber, if it were distinctly sold as immature rubber. Such rubber has its uses and would certainly command a sale. Why not sell then?"

The suggestion with regard to leaving additional moisture in plantation rubber he said he had already fully dealt with in his communication to *The Times of Ceylon*. With regard to the possibility of artificial substitutes ousting rubber, Mr. Burgess will deal fully in his report.

BELGIAN CAPITAL IN MALAY PLANTATIONS.

THE organization is reported at Antwerp of the Federated Malay States Rubber Co., to take over from the Kajang Coffee and Rubber Co., Limited (8, George street, E. C., London), of a concession for 999 years granted by the sultan of Selangor, in the Federated Malay States, comprising 2339 acres under the names of "The West Country" and "Belmont" estates, there being under cultivation 851 acres in coffee, rubber, cocoanuts, and nutmegs. The capital is 2,000,000 francs [= \$386,000] in 500 franc shares. The vendors receive 500,000 francs in shares and an equal amount of cash. The new company dates from August 3, 1905; the headquarters will be at Antwerp. The estates mentioned, together with others controlled by the Kajang Coffee and Rubber Co., Limited, have been under the joint management of M. Sidney Parry and E. B. Skinner, who are among the leading planters of the Malay States. Mr. Skinner is on the executive committee of the United Planters' Association.

STRAITS SETTLEMENTS BOTANIC GARDENS.

THE annual report by Director H. N. Ridley, for 1904, mentions that the demand for plants and seeds of Pará rubber (*Hevea Brasiliensis*) was greater than the capacity of the gardens to supply. During the year 170,175 seeds and 28,665 plants were disposed of, 100,000 seeds going to the forest department of Lower Burma. A special appropriation was made during the year of \$1750 (silver) for experimental tapping of rubber trees, purchase of tools, and erection of a drying house. All trees of suitable size for tapping were numbered and registered with a view to a definite record of production under varying conditions being made for the benefit of planters. Altogether 1285 trees were registered and 880 were tapped, with the prospect that the amount of dry rubber would average one pound per tree of average girth at three feet from the ground of 3 feet 3 inches. It is mentioned that the yield of dry rubber averages less per tree than was pointed to by earlier experiments, but the most recent production averages 97 per cent. of dry rubber, whereas formerly the loss in washing amounted from 35 to 40 per cent., and it is considered that the higher market value of

the rubber produced now will more than offset the decreased weight. The Pará rubber tree mentioned in previous reports was again tapped fourteen times between July 28 and September 6, 1904, yielding 3 pounds 14 ounces of dry rubber, raising the total to 26 pounds 13 ounces for the nine consecutive years that it has been tapped—an average of nearly 3 pounds per year.

BUKIT RAJAH RUBBER CO., LIMITED.

REFERENCE was made lately in THE INDIA RUBBER WORLD (page 376) to the report of this important plantation company, in Selangor, Federated Malay States, from which it appeared that the sales of produce during the first year of the working of the company as now formed, exceeded all expenses, including new development work during the year, by £95, which was regarded as a favorable showing. At the beginning of the year covered by the report, there were growing on the plantation 10,000 rubber trees six years old, 22,000 five years old, 12,000 four years old, and 41,000 three years old, besides many thousands of younger trees. The rubber sold during the year amounted to 6711 pounds, obtained from the six year old trees. Those trees are now seven years old, and are expected to yield a larger product this year, besides which 22,000 trees have now become six years old, and are eligible for tapping this year, while an additional number will be ready every succeeding year. As mentioned last month, the company's estimate of this year's product is 25,000 pounds, which is regarded as reasonable by *The Times of Ceylon*, which in an editorial on the company's report predicts that within a very few years the company will be paying 50 per cent. yearly dividends. The paid capital of the company is now nearly £60,000, and the quoted price for shares is 3½ for 1.

PLANTED RUBBER IN BORNEO.

THE first tapping of planted rubber trees in British North Borneo occurred on June 24 on the Sekong estate, owned by the North Borneo Trading Co., near Sandakau, in the presence of a party of specially invited guests, headed by the Governor, the trip to the estate having been made on the Governor's yacht. His Excellency tapped the first tree and later removed from a number of other trees the tins of *latex*, which he emptied into the pails provided for the purpose, after which the Governor's wife, at the collecting depot, strained the *latex* prior to the beginning of the coagulating process. A bioscope was in operation all the while, from which it is inferred that the various processes are to be exhibited to the public in a series of moving pictures. Before the party separated toasts were drunk to the success of the new enterprise, amid much enthusiasm. The age of the rubber is not stated, but there were 32,000 Pará rubber trees on the estate in 1902, since which time 26,000 have been planted.

VISITING AMONG RUBBER PLANTERS.

[FROM "THE TIMES OF CEYLON," SEPTEMBER 7.]

MR. R. W. HARRISON, of Culloden estate, Neboda, who is recognized as the leading rubber planter in Ceylon, has just paid a brief visit to Selangor. He made his headquarters with Mr. J. B. Carruthers, the director of agriculture, but moved about all the time, and found Mr. W. W. Bailey's motor car indispensable. It was placed at Mr. Harrison's disposal, and he was thus enabled to practically see the whole of the estates of Klang. Most of these are under Mr. Bailey's supervision, and his position in rubber planting affairs in the state is unique. Mr. Harrison also saw Mr. M. S. Parry. He has a high opinion of the general country and the estates under cultivation. Much of his time was occupied in visiting and reporting on properties belonging to companies with their offices either in Colombo or London. Mr. Harrison has also brought back some rambong

(*Ficus elastica*) cuttings for St. George group, Kalutara. He enjoyed his visit, found every one hospitable, and returns in good health.

VALLAMBROSA RUBBER CO., LIMITED.

REGISTERED April 22, 1904, at Edinburgh, Scotland, with offices at 123, George street, in that city; capital, £60,000 [= \$291,990], in £1 shares full paid. Own the "Vallambrosa" estate, at Klang, Selangor, Federated Malay States; Mr. W. W. Bailey, chairman of the United Planters' Association, is agent; Mr. H. M. Darby, manager. The original purchase embraced 1035 acres and 194½ acres have since been acquired. On the original purchase were 930 acres planted in rubber (1898 to 1902), and 25 acres have been planted this year. The new accessions include 75 acres in coffee, to be planted with rubber 17×17 feet. Sales of shares reported recently at £3.

MILMEX LUMBER, RUBBER AND TRANSIT CO.

[Plantation on the river Coatzacoalcas, state of Oaxaca, Mexico. Office: Railway Exchange building, Milwaukee, Wisconsin.]

INCORPORATED May 2, 1905, under Wisconsin laws; capital, \$400,000. Have acquired 5000 acres adjoining the well known hacienda "Del Corte" of the Isthmus Plantation Association of Mexico, another Milwaukee enterprise. The object is to market lumber and plant rubber and other crops. Wilmer Sieg is president, C. W. Lenhart vice president, Paul E. Thomas secretary, W. I. Lane treasurer, and W. H. Perthesius general agent—all business men in Milwaukee.

THE CHICAGO RUBBER PLANTING CO.

[Plantation near Palenque, state of Chiapas, Mexico. Offices: No. 609 Ashland block, Chicago, Illinois.]

THE plantation of this company, which is incorporated under the laws of Illinois, comprises 500 acres purchased from the San Marcos Rubber Plantation Co. (Chicago), who have been in operation for some years and whose enterprise is understood to have made satisfactory progress. The officers are John W. Byam, president; T. S. Howell, general manager; Joseph L. Duplissis, treasurer; and N. H. Byam, secretary.

FEDERATED MALAY STATES.

THE administration report on Negri Sembilan, one of the Malay states, for 1904 mentions the exports of 42 piculs [= 5600 pounds] of cultivated rubber, against 10½ piculs [= 1400 pounds] in 1903. What was known as the Government rubber estate, one half owned each by the government and Mr. T. H. Hill, was valued at \$59 143 75 (silver) by Mr. E. V. Carey. The government half share was disposed of to Mr. Hill for \$29 571.88, which amount was paid in January, 1905. The tapping of rubber is proceeding on a constantly increasing scale, and a very considerable output for 1905 is expected. The report mentions that the 100 rupee shares of the Seremban Estate Rubber Co., Limited, were quoted at the time of writing at 285 rupees. Several applications for land for rubber planting had been made during the year.

SMOKING RUBBER IN CEYLON.

MR. R. C. DICKSON, of the engineering department of the Colombo Commercial Co., Limited, has filed specifications at the Ceylon patent office of an invention to improve the method of coagulating and drying rubber. The new machine, the specifications state, consists of a small furnace, on the top of which is a smoke box containing a large revolving drum. In the space between are a series of baffle plates to divert the fumes and insure that no flames or sparks pass into the smoke box. At one side is a shallow pan for receiving the latex. In this is a small roller partly immersed in the latex with its surface in contact with the surface of the large drum. A fire is placed in the furnace and the fumes are allowed to pass between the baffle plates and round the large drum to the chimney. When the desired

temperature has been reached, the pan is filled with latex from the feeder and the small roller is turned by hand or power. The surface of the small roller, being in contact with the surface of the large drum, turns it and at the same time spreads a thin film of latex on its surface. The action of the heat and fumes on the thin film of latex coagulates and dries it. Continuing the process, the latex is spread film by film, coagulated and dried, until a thick deposit of rubber surrounds the large drum. A damper between the furnace and the smoke box is shut and a door in the smoke box opened. The rubber on the drum is slit across with a knife and unrolled in a long sheet which can be cut to any size for packing. The antiseptic qualities of the fumes, it is claimed, tend to preserve the rubber.—*The Times of Ceylon, August 2.*

RUBBER PRODUCTION IN THE ACRE.

THE journal *O Paiz*, of Rio de Janeiro, summarizes the report of the prefect of the department of the Upper Jurúa, one of the three divisions of the new Federal territory, covering the first six months of his administration, and submitted to the Brazilian minister of the interior. The population of the department is estimated at 5974. The number of *seringales* (rubber producing camps) is 112. The exports of rubber from this department from October, 1904, to March, 1905, inclusive, amounted to 3,313,372 kilograms, valued at 23,193,604 milreis, the average price of rubber being 7 milreis, while the expense of administration of the department did not exceed 600,000 milreis. The valuation given, with exchange estimated to average 13 pence during the six months, equalled \$6,111,998.53, gold. The report is accompanied by tables and a map, with a valuable résumé of information regarding the department. These figures of yield indicate a very rich rubber field. Over 1200 pounds produced for every inhabitant, and in less than a full working season would be impossible in the older rubber districts of the Amazon. Besides, it must be understood that the whole population is not capable of working rubber. It would appear that an average of a ton for each rubber worker must have resulted—a wonderful result when it is realized that a single rubber tree yields at each tapping only a few spoonfuls of latex, nearly half of which evaporates in the "smoking."

RUBBER PLANTING IN SOUTHERN BRAZIL.

THE Rio journal *O Cafesista* for August contained a report on the successful growing of maníçoba rubber (*Manihot Glaziovii*) on the fazenda "Bella Alliança," vargem Alegre, state of Rio de Janeiro, owned by Senhor Mauricio Haritiff, one of the leading agriculturists of the state, who, in view of the lessened profits from coffee culture, planted maníçoba rubber instead, and has already extracted a product which has been most favorably received in Europe. *O Cafesista* mentions that the secretary of agriculture of the state of São Paulo commissioned three leading planters of that state to visit "Bella Alliança," to study the excellent results obtained there from planting rubber. Mention is made of plantation maníçoba rubber sold recently in London at 100 milreis per 15 kilograms, which at the recent high rate of exchange equalled \$1.19¾ per pound.

PLANTATIONS AND PLANTERS.

MONERAKELLE Rubber Estates, Limited, registered in London, September 8, 1905, with £25,000 capital [= \$121,662.50] to acquire the Monerakelle and three other estates in the Moneragala district of Ceylon and to carry on there and elsewhere the business of rubber and general planters and merchants. One of the directors is A. Bethune, director of the Federated (Selangor) Rubber Co., Limited. Registered office: 12, Fenchurch street, E. C., London. The four estates embrace 1044 acres, of which 22 are now planted in rubber and 353 in cacao.

—Sembilan Estates Co., Limited, registered in London September 8, 1905, with £50,000 capital [= \$243,325] to acquire property and cultivate rubber and other products. No public issue. Directors: H. Gilliat, A. E. Gilliat, and T. E. Hurst-Hodgson, merchants of England. Registered office: 4, Crosby square, E. C., London.

—Mr. J. B. Carruthers, director of agriculture of the Federated Malay States, in order that planters who were unable to visit the Agri-Horticultural show at Penang might see the fine display of rubber made there, arranged with the owners to have an exhibition of the prize winning samples for one day at his office in Kuala Lumpur. Mr. G. D. Russell also gave an exhibition of a new rubber coagulating machine for which he has applied for a patent.

—The *Malay Mail* hears that two Ceylon planters, Messrs. Greig and Volum, will apply for 1000 acres of land for rubber planting in the Kuala Selangor district, Federated Malay States.

—The seventh annual report of Klanang Produce Co., Limited, shows an acreage of 144 acres in Pará rubber and 80 Rambong (*Ficus elastica*) at the beginning of the year; 96½ acres planted with rubber and coffee during the year, and 360 acres cleared for rubber. Application has been made for about 300 acres additional of government land. The company derive a satisfactory rate of income from cocoanuts and coffee, and large profits are confidently expected from rubber. The whole of the company's share capital of £20,000 has been issued. The £1 shares have been quoted recently in London at £3 5s.

AMAZON "PARÁ" RUBBER AND ITS CONTENTS.

[FROM THE "CEYLON OBSERVER," AUGUST 28.]

BEING of the first importance to British rubber planters in the East we quote elsewhere the article written by Mr. Aymé, the American consul, on the custom of blending *Sapium aucuparium* with the true "Pará" or *Hevea Brasiliensis*, and the information about the former tree. The discovery that this has been done for some time is due to investigations by two foreigners, Professor Henri Jumelle and Dr. Jacques Huber.

THE INDIA RUBBER WORLD finds in it a most important argument for rubber cultivation; "for who could imagine, if the Amazonian product had come from cultivated trees, that the planters could for years have been blending the latex of two different sorts" in no fixed proportion, and "neither the manufacturer nor the student of the subject, be a particle the wiser." This is decidedly true in that cultivated Pará is bound to give better results than wild, as it has been known hitherto; but as South American Pará rubber, used hitherto as a standard of unit value, has always been priced about 1 shilling below the best plantation, it shows that the trade, if they were not aware of the contents of the smoke dried article, at least valued it on a lower plane than what they took to be its equivalent produced away from the native habitat of the producing tree.

It is suggested by the above quoted authority that perhaps now it will be found that it is not defective coagulation or inactivity of the producing trees that causes inferiority of tensile strength in the "cultivated" product but just the absence of blending, which has naturally resulted in less purity. Mixing of various latices has, of course, long been done in Africa also by natives—especially in parts where natives are forced to bring in so much rubber and cannot be particular as to which plant or tree it comes from, or whether it is from one or more species. The result is that low prices are obtained, latex of *Landolphias* useless for rubber purposes often being thrown in.

The evidence so far is that the tensile strength of smoked rubber from the *Sapium* is less than that of *Hevea* rubber; but

rubber gatherers profess ignorance on the subject generally, through fear of the contractors they work for. Nevertheless a big field of enquiry as to the blending of latices of various rubber producing trees, of which *Hevea Brasiliensis*, *Castilloa*, and Ceará rubber are (in order) so far the chief, is now presented.

It would take the life time of a chemical expert or two to discover which is the best resulting blend. It seems to us that the rubber industry with its various blends—which, be it noted, would be made *before* reaching the market of consumption (the American suggestion to leave manufacturers to do their own blending overlooks the fact that the particular "blending" in question must occur long before the manufacturer is reached, namely at the place of production)—may in time become as complicated as the tea industry is *after* the tea has reached the buyers' hands, at which point blending in the tea trade begins.

From the information presented to-day, there would appear to be even greater need than before for a Ceylon officer like Mr. Frederick Lewis, to be detached for investigation in South America, and to enquire specially in regard to rubber blending in Pará; while the field for study, before our local "rubber" experts-to-be (the chemical analyst, Mr. Bamber, and his assistant, Mr. Bruce) has been appreciably widened—through the work of Mr. Henri Jumelle and Dr. Huber and the attention drawn to it by the American consul in Pará.

YIELD OF PLANTED "PARÁ" RUBBER.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Referring to the following extract from your October 1 issue (page 30), there seem to the writer to be some discrepancies in it, and he would like to call your attention to the same:

THE London correspondent of *The Times of Ceylon* writes: "Talking to the director of a Straits rubber company this week, he mentioned that on their property 100 coolies a day were hard at work tapping and bringing in 12 ounces a day. The yield per tree (the trees being from six to seven years old) was some 6 ounces from the one tapping, and the manager estimated that the yield per tree for the year would be 1½ pounds of rubber per tree operated upon. The first consignment sold last week at 6s. 7d. [= \$1.50½]."

First, the statement is made that 100 coolies are bringing in 12 ounces a day; should not this read 12 pounds per man? Second, the amount received from a consignment is mentioned in the last line at 6s. 7d. or \$1.50½. Ought this not to be \$1.59½?

NORTON H. BYAM,

Secretary Chicago Rubber Planting Co.

Chicago, Illinois, October 7, 1905.

THE paragraph quoted was given space in accordance with our policy to compile from whatever source data bearing upon the yield of rubber trees of different species and under varying conditions. We do not know what plantation was referred to in the Ceylon newspaper; the point which concerned us was that *Hevea* trees "six to seven years old" yielded in a year 1½ pounds of rubber each, or more than 200 pounds per acre, the general practice being to plant 200 trees to the acre.

Later issues of *The Times of Ceylon* have devoted much attention to the rate of yield of Pará rubber (*Hevea*) under cultivation, and the working force needed. Mr. G. H. Gollidge, writing in the issue of August 17, regards three coolies per acre sufficient for tapping rubber planted 200 trees to the acre, so long as the yield is only one pound per tree; as the trees increase in size and the yield becomes larger an additional number of coolies would be required. He says: "A cooly should tap from 40 to 80 trees per day, according to size of trees - - - Latex from the 80 trees produces one pound of dry rubber." It must be kept in mind that the Pará rubber tree in the Far East, as on the Amazon, is tapped many times during the year,

the yield at each tapping being very small. Where 100 coolies are referred to above as bringing in 12 ounces each per day, the idea is that they will do this the year round. The "one tapping" referred to is one period or season of tapping; to gain 1½ pounds of rubber per tree would involve three such periods of tapping in a year, 6 ounces for each period.

In the issue of August 18, Mr. Francis J. Holloway estimates that one cooly—for tapping alone—should be able to take care of 125 trees per day up to the time that they yield 3 pounds of rubber each per year, and he gives figures to show that 100 coolies—for tapping and curing rubber—should be sufficient for 100 acres of rubber, planted 200 trees to the acre and yielding 600 pounds of rubber per acre, but this involves working every day in the year. His figures analyzed show an average collection of about 2 pounds daily for each hand employed at tapping, but this refers to older and more productive trees than on the Straits plantation mentioned by Mr. Byam.

Mr. W. W. Bailey writing in the issue of August 19 says: "Our men bring in from 1 to 1¼ and 1½ pounds of rubber per day per man, and when our trees get older we shall get 2 pounds per man per day." But supposing one man brings in only one pound per day, and works only 300 days in the year, 666 tappers would be able to take 200,000 pounds of rubber from 1000 acres. The writers quoted above are among the leading Ceylon and Straits planters of rubber.

The above figures of yield seem liberal, in view of the fact that mature native rubber trees in the state of Pará are tapped perhaps 100 times in a year to obtain often less than 5 pounds of rubber, though trees never before tapped may yield 10 pounds. None of these considerations, however, apply necessarily to other species of rubber than *Hevea*, and this, we assume, is not the species our correspondent is planting.

The London price mentioned is a misprint for \$1.60½, the equivalent of the English value, converted at \$4.8665 per £. —THE EDITOR.

PLANTING MONEY INSTEAD OF RUBBER.

THE "directors" of The International Rubber and Trading Co. (successor to Mr. John Cudahy's Pará Rubber Plantation Co.) continue to have fun with the misguided investors in their merry game of fraud in the name of rubber. Recently a printed notice was sent out to the stockholders, without date or mention of place of origin, but signed—

H. S. PERKINS,
Secretary.

HARVEY HARDING,
President.

—stating that an "annual" meeting had been held at Phoenix, Arizona, at which had been ratified the proceedings of a "special" meeting at Phoenix the day before, and another at Chicago still earlier; that a board of directors had been chosen, with full power to retire stock and issue bonds; that the directors had elected officers and "a general manager who, with our chosen working representatives in the field" was leaving for South America, where "the working season for rubber" is from July to January.

No names except as above—no figures—nothing but the details just quoted, and the assertion:

The foregoing statement seems to the board of directors sufficient evidence without going further into details, as to who controls the property of the International Rubber and Trading Co., and the only reply needed by our intelligent stockholders to any statements that claim otherwise.

How the authors of the circular must have laughed when writing "intelligent stockholders!" But did Mr. John Cudahy—in case he is still a stockholder—laugh when he got one of the circulars?

RECENT RUBBER PATENTS.

UNITED STATES OF AMERICA.

ISSUED AUGUST 22, 1905.

- N**O. 797,654. Playing ball. R. G. Wingfield, North Wales, Pa.
 797,707. Obstetrical pad. E. H. Pearson, Washington, D. C.
 797,757. Anti slipping attachment for vehicle tires. W. J. Smith, Canastota, N. Y.
 797,796. Hose or pipe coupling. E. Devlin, assignor to J. T. Scott, both of San Francisco.
 797,830. Hose rack. C. Wright, Everson, Pa., assignor to Wright Manufacturing Co., Wilkesburg station, Pittsburgh.
 797,865. Tool for wire binding hose to water pipes. A. J. Novachsky, Chicago.
 797,895. Horseshoe. Rachel Johnson, Madison, Fla.
 767,908. Eraser. [Comprising a hollow piece of erasing material and a squeeze bulb attached thereto.] C. E. McGill, Owensboro, Ky.
 797,927. Nozzle. F. L. Titsworth, Kenosha, Wis., and H. B. Sherman, Battlecreek, Mich., assignors to The H. B. Sherman Manufacturing Co.
 797,989. Razor strop. E. Tolman, assignor of one half to G. H. Braubrook, both of Taunton, Mass.

ISSUED AUGUST 29, 1905.

- 798,137. Air brake hose. Frank A. Magowan, Trenton, N. J.
 798,149. Stopper for water bags. C. O. Towne, Torrington, and J. H. Woodward, Waterbury, Conn., assignors to The Waterbury Brass Goods Corporation.
 798,185. Vehicle tire. [Pneumatic.] H. E. Irwin, Galesburg, Ill.
 798,195. Pneumatic tire protector. A. J. Locher and J. A. Predom, Auburn, Cal.
 798,199. Piston rod packing. C. C. Mason, Wilkesbarre, Pa.
 798,225. Tire for wheeled vehicles. F. A. Sterling, London, England.
 798,407. Fountain comb. P. L. Frost, Chicago.
 798,441. Hose coupling. L. R. Nelson, Boulder, Col.
 798,460. Band for hand stamps. L. K. Scottford, Chicago.
 798,508. Pneumatic tire cap. H. Harmon, assignor to The Harmon Manufacturing and Distributing Co., both of Chicago.

ISSUED SEPTEMBER 5, 1905.

- 798,608. Milking apparatus [for cows]. J. T. Hoover, Waterloo, Iowa, assignor to The Sanitary Cow Milking Co., Minneapolis, Minn.
 798,655. Fountain pen. W. Bolles, assignor of one half to J. L. Chase, both of Toledo, Ohio.
 798,718. Storm shield for vehicles. C. F. Wensinger, Fremont, Ohio.
 798,728. Vehicle wheel. J. E. Harrod, Indianapolis, Ind.
 798,767. Rubber shoe. [Claim. 1. A molded rubber shoe having the margin inclosing the mouth of the shoe and the sole portion denser than the uppers, as described. 2. A homogeneous rubber shoe having flexible uppers, the sole portion and the margin inclosing the mouth of the shoe being denser than the uppers, as described.] H. J. Doughty, Providence, R. I., assignor to Atlantic Rubber Shoe Co.
 798,795. Hose coupling. A. J. Itrich and W. F. J. Lutz, Chicago.
 798,815. Tire for vehicles. H. P. Maxim, Pittsburgh, Pa.
 798,827. Combined hose shut-off and door-opener. P. Pierce, Kenosha, Wis.
 798,893. Breast pump. U. D. Ezell, Kimball, Tex.
 798,895. Rod packing [for pistons]. O. J. Garlock, Palmyra, N. Y., assignor to The Garlock Packing Co.
 798,952. Golf tee and blank therefor. O. R. Coast, New York city.

Trade Marks.

- 5,846. Rubber insulating compound. The Okonite Co., Ltd., New York city. *Essential feature.*—The word OKONITE printed on the representation of a semi circular section of rubber-covered metal conductor.
 7,372. Packing composed of both asbestos and rubber. Osgood Sayen, Philadelphia. *Essential feature.*—The word TORPEDO.
 7,932. Fabric hose. American Multiple Fabric Co., Providence, R. I. *Essential feature.*—The words BAKER HOSE, between which is arranged a triangle, within which is the letter B.
 8,253. Rubber packing. Gibbens & Stream, New Orleans. *Essential feature.*—The letters ALLA. The first L is about twice the size of the others and is placed between an A and an L. The second A is placed beneath the first L.

ISSUED SEPTEMBER 12, 1905.

- 799,037. Recoil pad for guns. A. T. Duncan, Clinton, Mo.
 799,057. Horseshoe [with rubber cushion]. J. T. Hufty, Delavan, Ill.
 799,094. Clamping device for pneumatic tires. M. C. Schweinert, West Hoboken, N. J., and H. P. Kaft, New York city.
 799,164. Pneumatic tire. T. B. Jeffery, Kenosha, Wisc.
 799,216. Syringe. [Vaginal.] F. C. Barnes, Fremont, Ohio.
 799,270. Exerciser. E. Roland, New York city.
 799,278. Tire for wheels. B. T. L. Thomson, Clapham Common, England.
 799,293. Detachable securing means for tires. J. Baker, Pasadena, Cal.
 799,297. Fountain pen. J. F. Betzler, Akron, Ohio.
 799,301. Train hose coupling. I. I. Caskey, Columbus, Ohio.
 799,355. Bathing cap. W. F. Pfeiffer, Akron, Ohio.
 799,374. Rubber fabric [for tires]. C. H. Gray, Silvertown, and T. Sloper, Devizes, England—Sloper assignor to Gray.
 799,390. Baby cabinet. M. A. Kuykendall, Portland, Ore.
 799,534. Pressure pad for gilder's tools. W. H. Coe, Providence, R. I.
 799,547. Horse collar. G. E. DuBois, assignor of one half to F. R. Egee, both of Lenora, Kans.
 799,551. Antiskidding device for vehicles and cycles. H. S. Eyre. St. Leonards-on-Sea, England.
 799,575. Pneumatic carpet cleaner. E. E. Overholt, Washington, D. C.
 799,618. Eraser holder. J. C. St. John, assignor to Nehokist Mfg. Co., both of Boston.

Trade Marks.

- 7,062. Elastic webbing. The Russell Mfg. Co., Middletown, Conn. *Essential feature.*—The representation of a camel bearing a rider with a spear in his hand and speeding across a desert represented by palm trees and pyramids in the background.
 8,882. Fountain pens of the self-filling type. The Conklin Pen Co., Toledo, Ohio. *Essential feature.*—The representation of a hand holding a fountain pen in an ink well, with a cuff and a portion of a coat sleeve at the wrist.

ISSUED SEPTEMBER 19, 1905.

- 799,638. Resilient tire for road wheels. A. Ducasble, Neuilly, France.
 799,659. Ear trumpet. G. G. Lewis, Syracuse, N. Y.
 799,662. Covering for automobile tires. B. Nathan, New York city.
 799,681. Manufacture of tiling. [Described in THE INDIA RUBBER WORLD, February 1, 1905—page 160.] J. A. Sloan, Trenton, N. J.
 799,685. Boot [consisting of a low rubber foot portion; a woven fabric top secured thereto; and having leather extending upwardly from the top of the foot portion]. E. G. Stearns, Chicago.
 799,777. Self filling fountain pen. R. Conklin, Toledo, Ohio.
 799,786. Cushion and pump for vehicles. W. S. Freel, Bay City, Mich.
 799,806. Nursing bottle. [Nipple.] E. H. Simonds, Berkeley, Calif.
 799,859. Vehicle tire. [Claim. A tire comprising a flexible tube filled with a mass of hollow soft rubber bullets each containing gas in a state of high compression, whereby each bullet is distended to such an extent that it conforms throughout to the adjoining bullets or wall of the tube, the gas in each bullet being capable of expanding the bullet far beyond its normal capacity when the bullet is released from confinement.] Frank A. Magowan, Trenton, N. J.
 799,895. Massage appliance. [Rubber brush, the massaging surface formed of the ends of suction cups.] J. E. Doughty and J. R. Sanford, Winsted, Conn.

- 799,897. Fountain pen. W. I. Ferris, Stamford, Conn., assignor to L. E. Waterman Co., New York city.

- 799,915. Hose coupling. J. Metzger, North Braddock, Pa.

- 800,039. Fountain pen. F. E. Williams, Janesville, Wis.

- 800,112. Tire for vehicle wheels. J. A. Jones, Harrisburg, Pa.

- 800,129. Self filling fountain pen. R. W. Corham, Seymour, Conn.

Trade Marks.

- 4,282. Horseshoe pads. Revere Rubber Co., Boston. *Essential feature.*—The word ELITE.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each, postpaid.]

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1904.

* Denotes Patents for American Inventions.

[ABSTRACTED IN THE OFFICIAL JOURNAL, SEPTEMBER 6, 1905.]

- 10,913 (1904). Preserve jar ring. A. J. Krummeich, Rotterdam, Holland.
- 10,931 (1904). Reservoir pen. A. F. Cole, Kidderminster.
- 11,134 (1904). Revolving boot heel. F. A. Ellis and D. Honeywood, London.
- 11,156 (1904). Electric cable. [While stranding electric cables, a tape of Chatterton's or other suitable plastic compound is laid on each layer or strand so as to be squeezed into the interstices of the strands by the succeeding layer.] C. J. Beaver and E. A. Claremont, Knutsford, Cheshire.
- 11,240 (1904). Waterproof cases for playing balls. G. W. T. Leeson and W. Hill, Solihull, Warwickshire.
- 11,244 (1904). Golf ball [formed of hollow shell of a composition containing celluloid as the chief constituent and mixed with a heavy material to give weight.] C. de Büren, Geneva, Switzerland.
- *11,360 (1904). Construction of punching bags, footballs, and the like. A. Lindsay, East Orange, New Jersey.

[ABSTRACTED IN THE OFFICIAL JOURNAL, SEPTEMBER 11, 1905.]

- 11,422 (1904). Exercising apparatus. W. Sutton and S. Lord, Liverpool, and W. S. Kerr, Southport.
- 11,426 (1904). Pneumatic tire [protected from puncture by transverse metal plates]. H. David, Paris, France.
- 11,462 (1904). Rim for pneumatic tires [with one detachable flange or retaining ring]. A. H. Culley and D. E. Brown, Forrest Hill, Kent.
- 11,516 (1904). Pneumatic tire [protected from puncture by a chain of metal plates between cover and inner tube]. F. Nusch, London. (L. Vanderpere-Simon, Ixelles, Belgium.)
- 11,624 (1904). Air cushion. E. Katzenstein, Berlin, Germany.
- 11,771 (1904). Pneumatic tire [protected from slipping by a ribbed cover built up of metallic links]. R. E. P. Craven, Armley, Leeds.
- 11,782 (1904). Life belt. F. C. N. Parizot, Bremen, Germany.
- 11,795 (1904). Leather protector for pneumatic tires. J. Lines, Warrington.
- 11,858 (1904). Hose coupling [for railway air brake]. E. C. Ladner, N. J. Kessels, and C. E. Hayes, Brisband, Queensland.
- *11,861 (1904). Pneumatic tire [with protective pad of asbestos]. C. W. Maxon, West Bay City, Michigan.
- 11,918 (1904). Heel protector. C. J. Axten, London, and W. May, East Ham.

[ABSTRACTED IN THE OFFICIAL JOURNAL, SEPTEMBER 20, 1905.]

- 11,924 (1904). Two part rim for elastic tire. C. P. E. Schneider, Le Creusot, France.
- 12,148 (1904). Pneumatic tire [with non skidding band of leather]. E. Stachl, Bristol.
- *12,169 (1904). Obstetric operating pad. H. J. Haddan, London. (Meinicke & Co., New York.)
- *12,301 (1904). Waterproof suits for swimming. N. B. Lawson, Muskegon, Michigan.
- 12,401 (1904). Pneumatic tire [having a tread notched transversely to prevent slipping]. T. Jackson and A. Miles, Cheltenham.
- 12,463 (1904). Pneumatic tire [with means for automatically closing punctures]. E. Montecuccoli, Vienna, Austria.

[ABSTRACTED IN THE OFFICIAL JOURNAL, SEPTEMBER 27, 1905.]

- 12,511 (1904). Mold for golf balls. P. H. Haddleton, London.
- 12,523 (1904). Mold for pneumatic tire covers. A. J. Boulton, London. (J. M. Piquera, Paris, France.)
- 12,524 (1904). Pneumatic tire [prevented from creeping by pins inwardly projecting from the rim flanges and entering eyeletted holes in the thickened edges of the tire]. A. S. Morrison, Pinner, Middlesex.
- 12,661 (1904). Grip for handle of a cricket bat or game club. E. L. Curbisley, Manchester.
- 12,705 (1904). Fountain pen filler. J. M. Nolan and A. K. Watts, London.
- *12,892 (1904). Apparatus for soling leather boots with India-rubber. G. F. Butterfield, Boston, Massachusetts.
- 12,911 (1904). Packing rim for valves. A. E. Davis, Johannesburg, Transvaal.

*12,912 (1904). Pneumatic motor tire [consisting of a rubber covered annulus made of metallic wire spirals]. T. Midgley, Columbus, Ohio.

12,933 (1904). Elastic tire [having a series of spiral springs fitted in compression between it and the wheel rim]. E. W. Bache, West Bromwich.

12,999 (1904). Pneumatic tire [constructed of a number of independent air chambers. F. G. McKin, London.

13,006 (1904). Pneumatic tire [with protective metallic tread]. A. Pereno, London, and J. Coulon, West Kensington.

PATENTS APPLIED FOR—1905.

Space is given here only to Applications for Patents on Inventions from the United States.

- 17,691. J. J. Bowes, Jr., Washington City. Hose coupling. Sept. 1.
- 17,842. The British-Thomson Houston Co., Ltd., London. Improvements in and relating to wire coating machines. (The General Electric Co., Schenectady, New York.)

THE FRENCH REPUBLIC.

PATENTS ISSUED (WITH DATES OF APPLICATION).

- 352,256 (Feb. 24, 1905). Firm of Geoffroy & Delore. Covering of very fine copper wires for electrical purposes.
- 352,365 (March 14). J. M. Padgelt. Device for repairing pneumatic tires.
- 352,371 (March 14). Firm of Robinson Brothers, Ltd., and Mr. Clift. Process of reclaiming rubber. [See THE INDIA RUBBER WORLD, October 1—page 11.]
- 352,407 (March 15). R. Dersonne de Sennevoy. Air chamber with independent sections for tires.
- 352,416 (March 15). Dr. Alexander and Fosnansky. Elastic tire.
- 352,426 (March 16). J. Magnin. Detachable anti-skidding protector for pneumatic tires.
- 352,450 (March 16). R. A. Soret. Hoof pad.
- 352,488 (March 22). A. Berthelier. Pneumatic tire and rim.
- 352,504 (March 18). E. M. M. Houel. Double carriage suspension by metallic springs and pneumatic tubes.
- 352,535 (March 20). B. T. L. Thomson. Wheel tire.
- 352,598 (March 21). W. R. Sine and J. S. Rosenthal. Improvements in the manufacture of Caoutchouc articles. [Process of the Reinforced Hard Rubber Co., Jersey City, United States.]
- 352,619 (March 22). F. Veith. Air chamber for pneumatic tires.
- 352,682 (March 24). F. M. Miller. Hoof pad.
- 352,694 (March 24). J. H. Bontemps. Protected air chamber for pneumatic tires.
- 352,715 (March 20). J. L. Didier. Pneumatic tire.
- 352,827 (March 29). D. Couverchel. Armored pneumatic tire cover.
- 352,839 (March 29). P. de Schostakourky. Process of spinning covers over vulcanized Caoutchouc tubes.
- 353,110 (April 7). L. Noel. Valve for pneumatic tires.
- 353,121 (April 7). F. Beauvois. Method of attaching anti-skidding elastic tires.
- 353,138 (April 7). L. J. Vialle. Elastic tire.
- 353,202 (April 6). L. L. Picat. Non-puncturable tube for pneumatic tires.
- 353,385 (April 15). Dravy and Medhurst. Pneumatic tire.
- 353,413 (April 15). De Dion and Bouton. Elastic tire.
- 353,436 (Feb. 16). B. H. Chameroy. Anti-skidding protector for pneumatic tires.
- 353,438 (Feb. 17). A. L. Adams. Rolling up machine for straight or bias cut bands.
- 353,469 (April 14). A. de Mans. Tire with anti-skidding reinforced cover.
- 353,491 (April 17). The Swinehart Clincher Tire and Rubber Co., Akron, United States. Elastic tire.
- 353,527 (April 17). E. Lapierre. Protector for pneumatic tires.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Bobet, Ingenieur-Counsel, 16 avenue de Villiers, Paris, at 50 cents each, post paid.]

LIBERIA.—The Liberian Development Co., Chartered and Limited (London), have registered a lien for £4000 [= \$19,466] in 7 per cent. debentures, charged on 15,000 fully paid £1 shares in the subsidiary Monrovia Rubber Co., Limited, through which is held the concession for gathering rubber in Liberia.

NEW GOODS AND SPECIALTIES IN RUBBER.

THE COILE BATH TUB.

THIS is a soft rubber, inflatable, collapsible bath tub, without wooden or metallic stays or bars, designed for the purpose of conveniently and safely administering the Brand (bath) treatment to typhoid fever patients and others requiring this treatment, without necessitating their removal from the bed. The bath is recognized by the medical profession generally as the best known treatment in typhoid fever, but its use is limited by a lack of suitable bath apparatus. The best authorities agree that whenever the Brand treatment



has been used it has greatly reduced the mortality rate. The device patented by Dr. Henry P. Coile, Knoxville, Tennessee, and here illustrated, is a full sized bath tub with an air pump attached. The bottom of the tub is a strong oval rubber sheet. The walls attached to the margin of the bottom are a series of superimposed communicating horizontal air chambers, extending entirely around the bottom. Inflated they form a strong air cushioned wall; collapsed they form a border around the bottom which is not of sufficient thickness to be in the way of helping the patient on or off the deflated tub. Air escape valves are placed on both ends of the tub, which serve the purpose of allowing it to rapidly collapse after the bathing has been done. On a level with the bottom is a funnel sleeve through which water may be poured into the tub. It serves also the important function of quickly emptying the tub when desired, by lowering its extremity into a vessel on the floor at the side of the bed. This is essentially a portable bath. The tub, pump, towels, rubbers, and sponges may be packed for easy transportation in a suit case and carried by a boy or conveyed by a physician in his carriage to the patient without inconvenience. It may be used on a suitable hospital carriage or a table, but is especially designed for use on the patient's bed. The United States patent on this device, No. 755,747, was dated March 29, 1904.

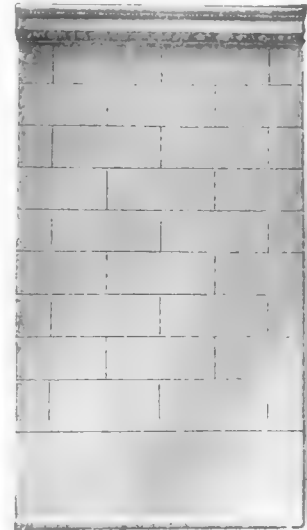
DR. TULLAR'S FRENCH DOUCHE.

THIS new syringe is made entirely of rubber, and has many advantages over other syringes of similar appearance. The patent vaginal spraying dilator is entirely different from all others. It is made of highly polished hard rubber, and has curved dilating flanges or extensions, which keep the parts expanded when in use, causing the spray

jets to come indirect contact with all surfaces. With the "French douche," the outflow of injected fluid is not obstructed, as with the old style syringe; it flows along the spiral grooves, thoroughly dewatering the entire passage. This syringe being made with a special bulb, and also extra large valves and supply pipe, has four times the spraying capacity of bulb syringes of this general appearance; with one insertion of the pipe any quantity of water or medication, may be used. [The Seamless Rubber Co., New Haven, Connecticut.]

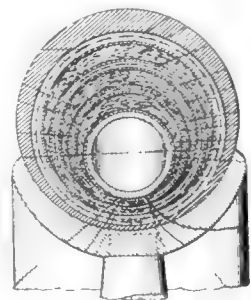
PEERLESS RUBBER WAINSCOTING.

THE illustration relates to an entirely new material for wainscoting bathrooms and lavatories in parlor and sleeping cars, hospitals, and the like. It is absolutely impervious to liquids, thereby presenting a surface thoroughly sanitary, clean, and hygienic. It will not crack or peel. It is made in sheets of any width to 36 inches, and in any length that may be desired. As made usually the thickness of body is $\frac{1}{16}$ inch, the molding $\frac{1}{8}$ inch, and base $\frac{1}{4}$ inch. The trade is invited to ask for samples and prices. [The Peerless Rubber Manufacturing Co., New York.]



STEARNS'S PUNCTURE RESISTING TIRE.

IN a new form of pneumatic motor tire the inflatable inner tube has wrapped about it two or more puncture resisting pads, the whole being protected by an outer sheath. The form of one of these protective pads is shown in cross section in the lower part of the illustration; the general form of construction in the upper part. Each pad consists of a casing of thin rubber, filled with cotton fiber in the form of felt. Between each two pads, and between the last pad and the outer cover, is a thin layer of rubberized cotton duck, designed as a "binder" to hold the different parts of the tire more closely together. The inflation of the inner tube serves to compact the fiber pads, and thus add to their resistance to puncture. Besides, the alternation of pads and "binders" renders a nail, for example, less liable to penetrate to the air tube than if the protective body were in a single layer, even if equal in thickness to the tire as now constructed. This tire has been patented by William F. Stearns, a rubber factory superintendent at Batavia, New York; United States patent No. 794,197.



NEW AUTOMOBILE APPAREL.

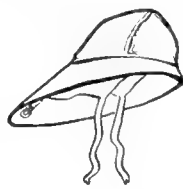
In the way of novelties in automobile clothing this season, particularly noticeable are rubber surface goods in tan, terra



AUTO SHIRT.



CAP WITH CAPE.



SOU'WESTER.

cotta, pearl, and other colors, which are not only new but attractive. These are to be seen in garments for both men and women, and in addition to "auto shirts," coats and

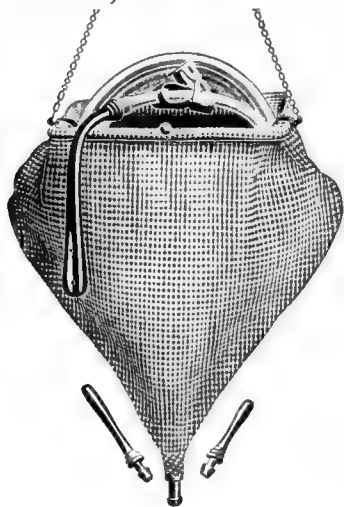
cloaks, they are also made up into hats, caps, etc., to match. One of the illustrations herewith shows an Auto Shirt, which while it is the original garment

made for automobile purposes, still remains popular and has a very large sale. It is put on the same as a shirt, has storm

fly front, draw strings at collar and sleeves, and is cut full in length and skirt. This is made in all the colors mentioned above, in addition to black, white, and pearl. For ladies' wear similar goods are made up into cloaks with detachable hood. Two other illustrations relate to sou'wester hats and caps with capes. These, by the way, comprise only a few of the items of interest in the latest catalogue of Hodgman Rubber Co. (Nos. 806 808 Broadway, New York).

A NEW STYLE IN FOUNTAIN SYRINGES.

FOUNTAIN syringes have been not only improved in effectiveness by the constant efforts of inventors from the date of the first introduction of such goods in use, but, like many other articles in rubber, they continue to be brought out in novel styles, which add to their attractiveness, as well as possessing new advantages. The cut herewith relates to a distinct novelty in the matter of appearance of the class of goods referred to. The bag illustrated may be described as resembling very closely a ladies' chatelaine hand bag. The top is provided with a handle, as if to be carried by hand, and with a chain. The principal idea is to render the article as inconspicuous as possible. But the main object is to provide a fountain syringe which will remain unnoticed if any stranger accidentally gazed into the owner's grip when she was traveling. [Whitall Tatum Co., New York.]



"PEERLESS" SPONGE LANDING PAD.

THE interior of the firemen's landing pad illustrated in this cut is porous and spongy. When a fireman "sliding down the pole" lands on this pad the air in the cells is compressed, and it expands again when the pressure is removed. Made from

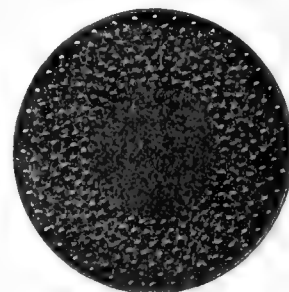
pure Pará rubber such a pad is sufficiently elastic to take up any jar and shock caused by landing on it. It is referred to as



being very durable and lasting, and it may be added that it is listed higher than the air cell or cushion pads. [The Peerless Rubber Manufacturing Co., New York.]

"HEMISPHERE" CUSPIDOR MATS.

THE illustration relates to a new and attractive design for a rubber mat which serves excellently for use under cuspidors, pitchers, flower pots, and the like, and is made with a raised border to prevent damage to carpets and floors from water running over. This mat is particularly suitable for hotels, public buildings, steamboats, railway stations and cars, conservatories, and porches. A design patent has been applied for. The mats are made in sizes from 12 inches to 18 inches in diameter, and listed at \$7 to \$11 per dozen. [The New Jersey Car Spring and Rubber Co., Jersey City, New Jersey.]



PROGRESS IN COLOMBIA.

AN early issue of THE INDIA RUBBER WORLD will contain a résumé of the rubber situation in the republic of Colombia which will serve to throw some new light on this little known country. Colombia is twice the size of Texas and has almost unlimited natural resources. It is in this country that the Muzo emerald mines, the finest in the world, are located. Colombia is the first in emerald production and the second in platinum. In total gold produced she is third and when California stamps replace the crude wooden ones now in use she will rival the best. Her coal is only developed for local use, but with railroad facilities Colombia will coal all the steamers going to the Panama canal from her immense beds. Colombian coffee is still brought out by tortuous mule journeys and is among the finest that comes to the market. Her cattle go to Cuba by the hundreds of thousands. Various American and French firms are engaged in shipping mahogany and cedar, the only kinds of her many woods known outside of the country. In the palmy days of wild India-rubber gathering, with its ruthless destruction of trees, Colombia stood at the fore [see THE INDIA RUBBER WORLD, October 1, 1901—page 8], and now again is coming into prominence as shipper of cultivated rubber. The Colombians have learned their lesson and her last revolution was a moral one, with the result of putting into power General Reyes and a government representing both political parties, with "Progress" for their watchword—and they seem to be going about it in the right way.

THE pneumatic motor tire to be manufactured by The Firestone Tire and Rubber Co. (Akron, Ohio), mentioned in the last issue of this paper (page 25) is that covered by the patent of H. A. Palmer, instead of Theron R. Palmer as stated

RUBBER INTERESTS IN EUROPE.

A RUBBER FACTORY IN SWITZERLAND.

THE first establishment in Switzerland for the manufacture of technical (mechanical) goods of India-rubber, Gutta-percha, and Asbestos was established in 1895 as a department of the wire and cable works of the firm R. & E. Huber, at Pfäffikon, in the canton of Zurich, which date from 1880. The rubber department has grown in importance until it now gives employment to about 100 people, and motive power equal to 500 H.P. derived from Betzau, 17 kilometers distant. Pfäffikon, by the way, contains about 4000 people and is situated 10 miles from Zurich. The illustration on this page shows the entire works of the Messrs. Huber. Their production of rubber goods consists largely of hose in great variety as regards size, color, and purposes for which it is employed. There are also made belting, packings, mats and matting, rubber rollers for numerous purposes, and insulating material in hard and soft rubber, including pure gum strip. The company have made treads for automobile tires and purpose taking on the production of complete tires. Some druggists' goods have been made. The asbestos used is chiefly in connection with rubber for special packings.

GUTTA GENTSCH IN GREAT BRITAIN.

AT the third annual meeting of shareholders of The New Gutta-Percha Co. (London, September 29) the gross profit of the year's trading was reported to be £266 9s. 8d. It was explained that time is required for tests satisfactory to possible buyers of a new insulating material. Their customers, however, already included the admiralty, several railway companies, and other concerns of importance, and letters were read from engineers of these companies expressing the most favorable opinions of "Gentsch." In certain quarters their goods had been objected to on the ground of not being "all British," whereupon manufacturing arrangements had been completed with Johnson & Phillips, Limited, of Old Charlton, Kent, and the opposition of "the India-rubber and Gutta-percha ring" would be circumvented by selling arrangements made with Verity's, Limited, who had branches throughout the kingdom and wide export connections. In connection with the arrangement with Johnson & Phillips, a new company will be formed to be called the Parnax Cable Manufacturing Co., Limited. Parnax is the name adopted for the quality of their material to be specially used for the insulation of land cables, as opposed to Gutta-Gentsch, which will be retained for submarine insulation. Negotiations were under way for the sale of the French patents to a syndicate on what was believed to be favorable terms. [Gutta-Gentsch is described in THE INDIA RUBBER WORLD September 1, 1902 (page 385); October 1, 1902 (page 9); January 1, 1905 (page 131).]

RUBBER GOODS HIGHER IN AUSTRIA-HUNGARY.

MANUFACTURERS of rubber goods on both sides of the Leitha river have advanced the prices of their products, by reason of the enormously high prices of the crude material. The advance amounts to 15 per cent. for goods the price of

which is less than 10 kronen, and to 20 per cent. for goods sold at more than 10 kronen. It has been in force since September 15. [10 kronen=\$2.03.]

GERMANY.

VEREINIGTE Gummiwaaren-Fabriken Harburg-Wien, who had already a factory at Hannover, have purchased the export business there of Gerlach & Cie. (Bödeckerstrasse 22), which will be continued for the sale of druggists' and surgical rubber goods.

=The German manufacture of dress shields (*Schweissblättern*), instead of being in the hands of a few large firms as in America, is distributed among a number of relatively small concerns. A recent list credits Berlin with 7 producers of such goods; Bielefeld 2; Dresden, Frankfurt a/M., Leipzig, and Mannheim 1 each—a total of 13. Two of these firms make other goods, including the important Deutsche Kabelwerke Actiengesellschaft, with M 2,000,000 capital.

=The Dunlop Pneumatic Tyre Co., G. m. b. H. (a branch of the British Dunlop company), who began manufacturing independently at Hanau, in October, 1904, are reported about to build a second factory, to provide for the growth of their business.

GREAT BRITAIN.

MR. ISIDOR FRANKENBURG, founder and head of the important firm of I. Frankenburg & Sons, Limited, electric cable and rubber manufacturers, of Greengate, Salford (adjoining Manchester), has accepted the office of mayor for the ensuing year. Mr. Frankenburg, whose firm was formed originally in 1866, has long taken an active interest in municipal affairs, becoming a member of the Salford council in 1887, alderman in 1901, and more recently justice of the peace.

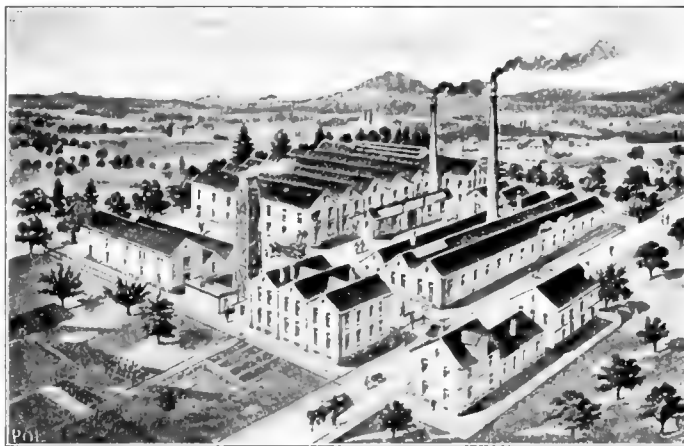
=A. W. Leslie & Co., Limited, waste rubber merchants in London, announce that owing to the great increase in their business they have removed their warehouses and offices from Essex road to 119, Stoke Newington road, N., where they should be addressed in future.

=The Warwick Tyre Co., Limited (Birmingham), announce that The Dunlop Pneumatic Tyre Co., Limited, have been appointed, as from October 1, 1905, the exclusive selling agents for their tires—"Warwick" and "Cambridge". Purchases of the tires thus designated will, therefore, be billed to customers by the Dunlop company hereafter, and not by the Warwick company.

FIRE IN A GERMAN FACTORY.

THE yearly report of the Actiengesellschaft Vereinigte Gummiwaaren-Fabriken Harburg-Wien, prepared for presentation at the shareholders' meeting on October 28, comes to hand too late for review in these pages. Space must be found, however, for the reference which the report contains to the recent fire in the works at Harburg a/d Elbe, which involved the destruction of the original building, erected in 1856. The report says:

"Since the completion of our annual report, a severe fire devastated our Harburg works during the night of October 6-7, totally destroying the buildings used for the manufacture of shoes and tires. While operations in our remaining lines of manufacture, including the plant of the Galalith Gesellschaft,



RUBBER WORKS OF R. & E. HUBER.

have not suffered the slightest interruption, we regret to state that it has been necessary to completely suspend the making of shoes and tires.

"The direct damage suffered by the fire, which will amount to approximately 2,000,000 marks [= \$476,000], is covered by insurance. The current book year, however, will be unfavorably affected by the interruption of operations. Our stock of shoes has been partially saved, and we will be in a position to satisfy the present demand for rubber shoes in the German market.

"We have already taken the necessary steps for installing a provisional plant, and hope to be enabled thereby, with the assistance of our Wimpassing works, to meet the requirements of our customers as well as circumstances will admit. The tire manufacturing season has ended, and we hope to have this line in full operation by the time the next season opens. We have, however, likewise planned a small provisional plant for these goods, and will therefore be in a position to fill all incoming orders, for which purpose we shall likewise utilize our Linden works.

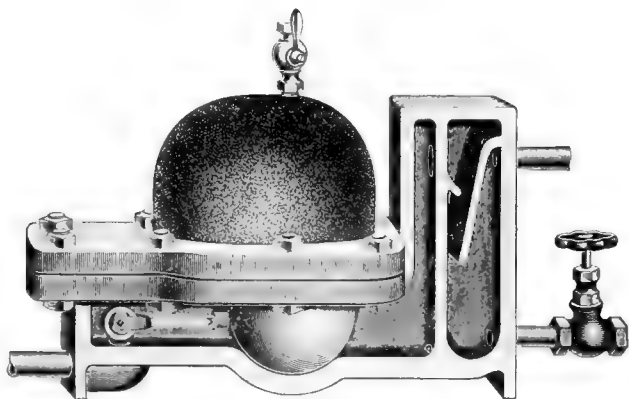
"Our endeavor will be to build our new plants as rapidly as possible, and we shall, of course, equip them with the latest and most efficient designs of machinery, so as to find ourselves once more capable of manufacturing in the most perfect manner our well tried and satisfaction giving products, and to considerable increase our capacity."

ITALY.

ACCORDING to the *Frankfurter Zeitung*, of Germany, there has been formed at Milan, Italy, a joint stock company under the style of *Società Italiana per l'industria della Gomma*, with a capital of 1,250,000 lire [= \$241,250], for the manufacture and sale of India-rubber and Gutta-percha goods, and especially pneumatic tires for vehicles. From other sources it is learned that the object of the company referred to is the exploitation of an entirely new tire. The manufacturing will be done at the important rubber works of Pirelli & Co.

THE "NEW ERA" STEAM TRAP.

NO one but the rubber manufacturer knows how much need there is of a good trap, many types developing the bad faculty of cutting valves, or blocking them up from sediment. The "New Era" defeats this by providing a sediment chamber in which everything that could by possibility injure a valve or a pipe settles. This chamber is fitted with a



CROSS SECTION OF STEAM TRAP.

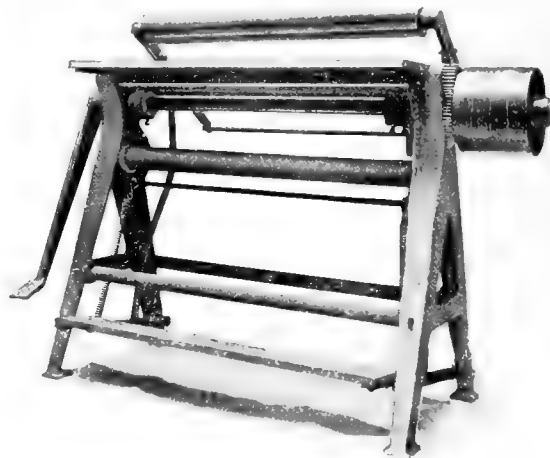
blow-off, so that once in every few months it can be effectually cleaned by the simple opening of a valve. The trap is so simple that it really needs no explanation whatever, the cross

section cut showing enough of the details to make it perfectly plain. In brief, it consists of a heavy iron casting with two distinct chambers, one for the sediment and one for the float. In the latter, the float operates a discharge valve of the Corliss type. The only joint is made with a wide surface so that once packed it remains tight almost indefinitely. At the top of the float chamber is an air cock, through which imprisoned air is allowed to escape. The trap is self supporting upon feet independent of the piping. The operation of the trap is as follows:

Steam mixed with water of condensation and sediment enters through the inlet pipe and strikes against a baffle plate. The sediment then falls to the bottom of its chamber, the condensation passing upward into the top of the sediment chamber, whence it passes into the float chamber. As the water rises in this chamber it raises the float, opens the discharge valve and runs out. The falling of the water then closes the valve. [Manufactured by Charles F. Hopewell, Cambridge, Massachusetts.]

AUTOMATIC WRAPPING MACHINES.

THE accompanying illustration represents an automatic wrapping machine especially adapted for the wrapping of hose, tubing, or tires, although it may be used to wrap any sheet material. This machine is constructed in any desired length between frames, the size in general request being 42 inches in the clear. The frame is made of cast iron, being supported at either end by substantial A shaped legs connected by rods. The rolls are of seamless steel tubing and made in



AUTOMATIC WRAPPING MACHINE.

lengths consistent with the size of the machine, which runs but one speed. The approximate weight of the device is 600 pounds, though this varies in accordance with the length of rolls carried. One of the merits claimed for this machine is that its process of operation allows the operator the unrestricted use of both hands. It is claimed to be thoroughly practical in design and operation, and it has been extensively sold. The manufacturer is A. Adamson, Akron, Ohio.

NICARAGUA.—The details were given in the last number of this paper of a contract under which the republic of Nicaragua conceded to certain persons a monopoly of gathering rubber on the public domain in the department of Zelaya, and the districts of Prinzapolka and Rio Grande, from September 1, 1905. *The American* (Bluefields) contains a notice signed by Otto L. Lehman, as lessee of the rubber trees, warning the public to respect the terms of the contract, from which it would appear that the contract has been transferred by the original parties.

NEWS OF THE AMERICAN RUBBER TRADE.

MAKING RUBBER FOOTWEAR AT LA CROSSE.

THE La Crosse Rubber Mills Co. (La Crosse, Wisconsin) have made their first rubber footwear, the primary line being tennis shoes, the first quality being marked "La Crosse Rubber Mills Co.", the second quality "Fleet Foot". From this they go on to a general line of rubber footwear, for which their manufacturing equipment and new buildings are now complete. The company will start, of course, with a small ticket but will have a producing capacity of 7000 pairs a day.

THE AKRON RUBBER SHOE FACTORY.

THE rubber shoe factory of The B. F. Goodrich Co. (Akron, Ohio) is rapidly getting into shape. The main building for the work is a four story brick building of the very latest and best mill construction, the dimensions being 144 × 96 feet. The goods manufactured will be known as the "Straight Line" goods, and although the ticket at the present time is but a few hundred pairs a day, new help is being rapidly broken in and it is being materially increased.

JOSEPH STOKES RUBBER CO.

AN amendment to the articles of incorporation of the Joseph Stokes Rubber Co. (Trenton, N. J.), filed on October 6, with the secretary of state of New Jersey, authorizes the increase of their capital stock from \$50,000 to \$150,000. The total capitalization is to comprise 1000 shares of preferred (6 per cent cumulative) and 500 shares of common stock, of the par value, of \$100. The decision to increase the capital was reached at a meeting of the directors in April last.

GLENDALE ELASTIC FABRICS CO.

At a meeting of stockholders of the Glendale Elastic Fabrics Co. (Easthampton, Massachusetts), held in Boston on October 9, it was voted to increase the capital stock from \$250,000 to \$327,600. Mr. George Astill has been elected general manager of the company, and director in place of the late Mr. Joseph W. Green, and Mr. C. A. Richmond has been elected assistant treasurer.

BOSTON BELTING CO. IN PHILADELPHIA.

HAVING made a change in their representation in Philadelphia, the Boston Belting Co. announce the appointment of Mulconroy Company, Inc., No. 722 Arch street, Philadelphia, as their agent for that city and vicinity. The new agency will constantly carry in stock a full line of the Boston company's staple goods, which in all cases are marked with their name and brand, which are guarantees of excellence, as also is the long established position of the company as large manufacturers of mechanical rubber goods.

A WHOLESALE RUBBER HOUSE IN TEXAS.

THE firm of Appel & Burwell Rubber and Tire Co. has been formed at Dallas, Texas, to engage in a wholesale business in vehicle, automobile, and bicycle tires. It is composed of Fred Appel, who has been in the retail trade in Dallas for several years, and N. B. Burwell, who has been a traveling salesman for rubber tires in the southwest for eight years—latterly for the International A. & V. Tire Co. The new firm will do business at the old stand of Mr. Appel, No. 110 South Akard street, whose retail sale and repairing of bicycles will be continued as a side line. The firm write to THE INDIA RUBBER WORLD: "We intend to be primarily a rubber tire distributing house, but we will also carry a line of rubber hose, packing, and rubber

mechanical goods after the first of the year. Our territory will include Texas, Arkansas, Louisiana, Oklahoma, and Indian Territory. We have the only exclusively rubber wholesale house in Texas or the southwest. We will have one man on the road a greater part of the time."

UNITED STATES RUBBER CO.—DIVIDENDS.

THE board of directors on October 5 declared a dividend of 2 per cent, upon the First preferred stock (including all the preferred stock now outstanding) for the quarter beginning July 1, 1905, and a dividend of 1½ per cent, upon the Second preferred stock for the same quarter, from the net earnings of the company. The net earnings for the first six months of the year (September partially estimated) are \$2,005,887.32. The net earnings for the corresponding period last year were \$2,105,485.89.—Application has been made to the New York Stock Exchange for the listing of the Second preferred stock, issued recently in connection with the merger with the Rubber Goods Manufacturing Co.

SUIT AGAINST A TIRE COMPANY FAILS.

IN the United States circuit court at St. Louis on October 6 judgment for the defendant was rendered in the suit of Augusta L. D. Perry against Rubber Tire Wheel Co. and its successor The Consolidated Rubber Tire Co. (New York), to recover \$60,000 in commissions which John W. Perry claimed to have earned by conducting negotiations in Europe for the sale of rights under the Grant patent, covering what is known as the "Kelly-Springfield" solid rubber carriage tire. Mr. Perry was at one time manager of the Paris branch of the defendant companies and conducted negotiations with a German company which he asserts were not carried to a successful conclusion through the fault of his employers. He assigned his claim to his wife, and this was the basis of the suit.

LANCASTER (OHIO) RUBBER CO.

LANCASTER Rubber Co., mentioned in this paper last month as a new Ohio corporation, is located at Lancaster, in that state. It is The Phoenix Rubber Co., lately of Barberton, Ohio, under a new name. Charles J. Franklin, the principal shareholder, is president, and M. A. Franklin secretary. It was intended to begin the manufacture of specialties in the druggists' and similar lines before the end of the month just closed.

RUBBER TIRES AT A CARRIAGE SHOW.

IN connection with the thirty-third annual convention of the Carriage Builders' National Association, which was held October 3-5 in the Second regiment armory in Philadelphia, being largely attended, occurred the customary exhibition of carriage accessories which has become so important a feature of these yearly gatherings of the trade. There were more than 100 exhibits. The following tire manufacturing companies were represented, most of them by several officers, managers, or salesmen:

Consolidated Rubber Tire Co.	.....	New York city.
Firestone and Rubber Co.	.....	Akron, Ohio.
The B. F. Goodrich Co.	.....	Akron, Ohio.
Goodyear Tire and Rubber Co.	.....	Akron, Ohio.
The Hartford Rubber Works Co.	.....	Hartford, Connecticut.
Kokomo Rubber Co.	.....	Kokomo, Indiana.
Milwaukee Rubber Works Co.	.....	Cudahy, Wisconsin.
The Mechanical Rubber Co.	.....	Cleveland, Ohio.
National India Rubber Co.	.....	Bristol, Rhode Island.
Pennsylvania Rubber Co.	.....	Jeannette, Pennsylvania.
The Republic Rubber Co.	.....	Youngstown, Ohio.
Stein Double Cushion Tire Co.	.....	Akron, Ohio.

Sweet Tire and Rubber Co. Batavia, New York.
The Victor Rubber Co. Springfield, Ohio.

Morgan & Wright (Chicago) were represented, but had no display of their tires. Exhibits were made also by L. C. Chase & Co. (Boston); Fairfield Rubber Co. (Fairfield, Connecticut); Fabrikoid Co. (Newburgh, New York); and the Rubber-set Brush Co. (Newark, N. J.)—of carriage cloth and other carriage accessories.

NEW YORK STOCK EXCHANGE TRANSACTIONS.

UNITED States Rubber Co. :

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Sept. 23	25,070	58 $\frac{1}{8}$	55 $\frac{3}{4}$	2,800	114 $\frac{3}{8}$	112
Week ending Sept. 30	14,100	56 $\frac{1}{2}$	53 $\frac{1}{2}$	2,300	112	110 $\frac{1}{4}$
Week ending Oct. 7	29,550	57	52 $\frac{1}{2}$	1,330	112	111 $\frac{1}{4}$
Week ending Oct. 14	14,500	53 $\frac{1}{4}$	50 $\frac{1}{2}$	1,440	111 $\frac{7}{8}$	110 $\frac{1}{8}$
Week ending Oct. 21	8,950	54 $\frac{1}{4}$	51 $\frac{1}{2}$	500	111 $\frac{5}{8}$	111 $\frac{1}{2}$

RUBBER Goods Manufacturing Co. :

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Sept. 23	3,400	35 $\frac{3}{4}$	34 $\frac{1}{2}$	200	104	104
Week ending Sept. 30	3,400	39	35	100	104 $\frac{1}{2}$	104 $\frac{1}{2}$
Week ending Oct. 7	900	38 $\frac{7}{8}$	37	600	105	104
Week ending Oct. 14	700	36 $\frac{1}{2}$	36	200	105	105
Week ending Oct. 21	500	37 $\frac{1}{2}$	37	100	105 $\frac{1}{4}$	105 $\frac{1}{4}$

FORMER RUBBER FACTORIES CHANGE OWNERS.

THE building erected in 1899 by the Model Rubber Co. (Woonsocket, Rhode Island) for a rubber shoe factory, and not in use for such purpose for the past three years, has become the property of Brindle Brothers, a company organized in July,

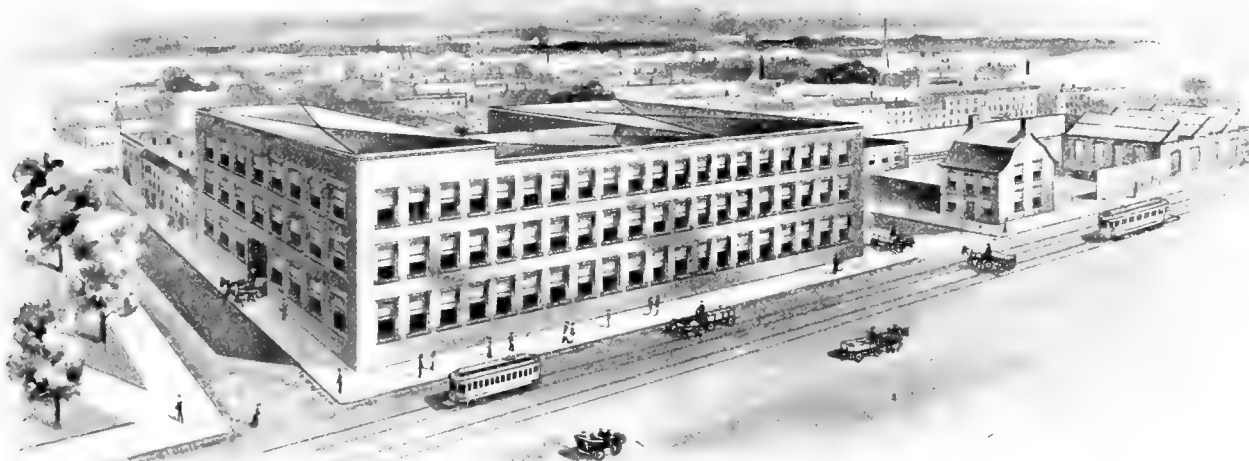
1903, to manufacture narrow woven fabrics. Brindle Brothers have been tenants of part of the building from the beginning, and now intend enlarging their facilities and occupying the whole building.

=The Standard Rubber Works property at Campello, Massachusetts, has again changed hands. Following the assignment of the Standard Rubber Corporation, about the end of 1900, this property was bought by Patrick Cavanaugh, of New York, who with his associates organized the Standard Rubber and Oilcloth Co. This business was discontinued on the death of Mr. Cavanaugh, and in October, 1904, the property was purchased by Rufus P. Maltby, also of New York, as an investment. It has now been sold to B. F. Tozier, a manufacturer of Lynn, Mass., but the purpose to which it is to be devoted is not stated.

NEW INCORPORATIONS.

EMERGENCY Rubber Co., October 4, 1905, under the laws of New York; capital, \$50,000. THE INDIA RUBBER WORLD is advised: "The president of the company is George R. Fuller, who is vice president and general manager of the Telephone Securities Co.; S. Schwarzschild is vice president and manager; Albert Vogt, treasurer of the Vogt Manufacturing Co., treasurer; and E. E. Pfahl, secretary. The office of the company will be located at 522 Granite building, Rochester, New York. The object of the company is to manufacture rubber shoes and other goods in the rubber line."

=Fidelity Rubber Co., October 10, 1905, under Rhode Island laws; capital \$5000. Incorporators: LeBaron C. Colt, W. De Forest Brown, and Lefferts S. Hoffmann, all of Bristol, Rhode Island. Object, to protect a trade mark on certain goods manufactured by the National India Rubber Co., of which Mr. Colt is agent and Mr. Brown secretary.



NEW FACTORIES OF THE CANADIAN RUBBER CO. OF MONTREAL, LIMITED.

MENTION has been made in these columns several times during the year of the extensive improvements in progress in the plant of The Canadian Rubber Co. of Montreal, Limited, involving important additions. On this page is shown a view of an entirely new series of buildings on the north side of Notre Dame street, Montreal, the floor area of which comprises 5 $\frac{1}{2}$ acres, all of which is accessory to the older factory plant, comprising 12 acres of floor space. The large increase in the company's business has necessitated the separation of many of the departments which previously were covered under one roof. The new buildings are devoted especially to the manufacture of carriage cloth, proofing, textile and rubbered fabrics, rubber cement,

druggists' sundries, sporting and stationers' supplies, and other specialties. The large general factories are devoted to the company's other products—"Canadian" rubbers (15,000 pairs daily), mechanical goods, and so on. Besides making these additions to their facilities, the company have installed many improved appliances for manufacture, and improved their head offices. Handsome displays of the company's goods have been arranged in the general office building, and Interlocking rubber tiling has been laid down on the floors. Including the general warehouse, the company's plant now embraces a total area of 21 acres. Their products are further referred to in a catalogue notice on another page.

NEW CAPITAL OF THE UNITED STATES RUBBER CO.

THE application of the United States Rubber Co. to have listed on the New York Stock Exchange their new capital share issues was approved by the governing committee of the Exchange on October 25, and due notice given. It will be remembered that in connection with acquiring control of the Rubber Goods Manufacturing Co. a few months since it was agreed to increase the capitalization of the United States Rubber Co. by \$25,000,000, of which \$15,000,000 was to be in First preferred stock and \$10,000,000 Second preferred stock, the amount of common stock to remain as before at \$25,000,000. It appears that there have now been issued 286,403 shares of First preferred stock, of which 235,255 are to be exchanged for the old preferred stock, share for share, and 51,148 for an equal number of shares of preferred stock of the Rubber Goods company. There have been issued 83,873 shares of Second preferred stock, of which 68,581½ are to be exchanged for double the number (137,163) of shares of common stock of the Rubber Goods company. Prior to May last the outstanding common stock of the United States company amounted to 236,660 shares, which number was increased on May 23 by 13,340 shares of common stock issued for cash at par to the Meyer Rubber Co., a constituent company, which brings the issue of common shares up to the total number authorized to be issued. The outstanding issues of the United States company to-day compared with the amounts authorized by its charter (together with its amendments) are as follows:

	Issued.	Authorized.
First preferred.....	\$28,640,300	\$40,000,000
Second preferred	8,387,300	10,000,000
Common	25,000,000	25,000,000
Total.....	\$62,027,600	\$75,000,000

The official statement would appear to leave unaccounted for \$1,529,150 of the Second preferred shares issued thus far.

It might be added that the total share capital of the Rubber Goods Manufacturing Co. outstanding at the date of the merger, and the amount of which control has been acquired by the United States Rubber Co., compare as follows:

	Total.	Acquired.
Preferred	\$ 8,051,400	\$ 5,114,800
Common.....	16,941,700	13,716,300
Total	\$24,993,100	\$18,831,100

The United States company also embraces in its statement the following:

CONSOLIDATED INCOME STATEMENT FOR FIVE MONTHS ENDING AUGUST 31, 1905.

Net sales, boots, shoes and miscellaneous.....	\$15,954,566.21
Cost of goods sold	13,330,797.01
Manufacturing profit	\$ 2,623,769.20
General and selling expenses, including interest, freight, taxes and insurance	1,234,826.31
Operating profits.....	\$ 1,388,942.89
Other income.....	162,402.97
Net profit.....	\$ 1,551,345.86

[NOTE.—It appears fair to assume that statement embraces no results of operations of the Rubber Goods Manufacturing Co., the merger of which with the United States company had scarcely been accomplished at the date of the report. —THE EDITOR.]

GENERAL RUBBER CO.

ACCORDING to the statement made by the United States Rubber Co. in its application to the Stock Exchange, the General Rubber Co. was organized March 29, 1904, under the New Jersey laws, for the purpose of buying, selling, and dealing in crude rubber, with an authorized capital of \$2,000,000, of which \$1,000,000 was paid in cash. The authorized capital was increased April 29, 1905, to \$5,000,000, of which \$2,000,000 additional was

paid in July, making a total cash capital at present of \$3,000,000, of which \$2,000,000 is owned by the Meyer Rubber Co., and \$1,000,000 by the Rubber Goods Manufacturing Co., each of these companies being a subsidiary corporation of the United States Rubber Co. The General Rubber Co. on July 1, 1905, executed an indenture with the Industrial Trust Co. (Providence, Rhode Island), as trustee, covering an issue of \$9,000,000 ten year gold debentures, bearing interest at 4½ per cent., of which \$6,000,000 have since been disposed of, under guarantee as to principal and interest by the United States Rubber and Rubber Goods Manufacturing companies. The paid in capital of the General Rubber Co. and the proceeds of these debentures is employed for buying and carrying crude rubber, practically entirely for the United States and Rubber Goods companies.

AFFAIRS OF THE HARDMAN RUBBER CO.

AN action at law instituted by Cyril Johnson against the Hardman Rubber Co. (Belleville, New Jersey), in which company he is a minor shareholder, was widely reported as a suit for the appointment of a receiver for the company on the hypothesis that entries had been wrongfully made in the company's books with the object of avoiding the payment of dividends. The Hardman Rubber Co. advise THE INDIA RUBBER WORLD that no application was ever made to any court for the appointment of a receiver for their company, and the question of the appointment of a receiver has never been opened or discussed before any court or judge. The action brought by Mr. Johnson had for its only object the correction of some credits made on the books of the Hardman Rubber Co. to the Belleville Land and Improvement Co., to which Mr. Johnson objected, claiming that the credits have been wrongfully made with a view to avoiding the payment of dividends to his injury as a minor shareholder. The vice chancellor has designated January 25 the day on which the case is to be heard, and has ordered Mr. Johnson, the complainant, to present proof at that time of his allegation that these items of credit were put wrongfully to the account of the land and improvement company. Bradstreet's reports that the company's statement of the case is believed correct, and authorities regard it as simply a disputed matter, which does not affect the company's credit. The company further report that their business is very brisk, and that they have at this time more orders for immediate delivery than at any previous time in their history.

MR. HEYL-DIA'S SYNTHETIC RUBBER.

AN invitation to witness the manufacture of Synthetic rubber is one that most of the trade, whether skeptical or believing, would be inclined to accept, and it was therefore not at all singular that the Editor of this Journal gladly availed himself of the opportunity to see Mr. George E. Heyl-Dia turn a "bastard" gum into a true Caoutchouc-like product. The experiment took place in the laboratory at the Safety Insulated Wire and Cable Co.'s works at Bayonne, New Jersey. The primary product appeared to be a very cheap gutta mixed with chemicals, probably in powder form. They were not to be identified by taste or smell, and there certainly was no true rubber present in the mass. This prepared slab was put into a jacketed vulcanizer, in a pan, the bottom of which was made of wire rods laid parallel to one another and close together. Steam was then turned on, the pressure gage showing an average of 55 pounds. After three hours the heater was opened and the slab had changed into a spongy dark colored product of three times the original volume, and was as elastic in that state as fine Pará. When stretched out into thin films it had a curious greenish cast, and smelled not unlike burned sugar. That the experi-

ment was successful no one could deny. The product that went into the heater cost, it was stated, 53 cents a pound. What came out, guessing at shrinkage, looked as if it might be worth at least \$1 a pound. Of course there was no opportunity for the writer to test the gum as to its ability to take up compound to vulcanize, or to wear, as against real rubber.

THE DERBY RUBBER CO.'S RECLAIMING PLANT.

THE rubber reclaiming plant at Shelton, Connecticut, which is now one of the oldest in existence, is to be operated in future under new conditions. The Derby Rubber Co., incorporated February 27, 1889, with an authorized capital of \$20,000, has retained its corporate existence though the factory has undergone several changes of management, and the capital has been increased to \$50,000. As will be seen from the announcement which follows, the management of the factory is in the hands of Mr. William F. Askam, one of the original incorporators. The present officers of the company are: Allan W. Paige, president; W. F. Askam, vice president; Charles N. Downs, secretary and treasurer. The announcement follows:

WE beg to announce that the factory plants of The Derby Rubber Co., located at Shelton, Connecticut, have been thoroughly remodeled and equipped with new and modern machinery, and will be operated by the owners as a rubber reclaiming factory.

Mr. W. F. Askam, vice president and general manager of the company, who has for many years been engaged in the rubber reclaiming business, will have charge of the manufacturing department of the company, which is a guarantee that these mills will continue to make the well known grades of reclaimed rubber for which they have in the past been so well and favorably known. Yours truly,

THE DERBY RUBBER CO.

Derby, Connecticut, October 16, 1905.

TRADE NEWS NOTES.

FRANK C. HOWLETT (Syracuse, New York) writes to THE INDIA RUBBER WORLD that he is at a loss to know how the report got started that he is to open a rubber factory in the far West. He has been receiving letters from Seattle, Washington, in reference to the matter, and letters have been sent in his care for F. E. Elwood, whom he does not know, though it has been given out in Seattle that Elwood is in Mr. Howlett's employ. Mr. Howlett states that he has no intention whatever of starting a factory as reported.

=Boston Belting Co., through their southwestern selling agents, Messrs. Towner & Co., at Memphis, Tennessee, lately filled for that city an important order for cotton double jacket fire hose, which was put to a severe test, in public, with results in every way satisfactory.

=The Republic Rubber Co. (Youngstown, Ohio) were mentioned in our July issue as adding to their plant an extensive brick building. By putting a roof over a large open space between two of their main buildings they are now still further increasing their room. The additions, when finished, will give them more than 50 per cent. additional floor space.

=In view of the large amount of printed matter required in the factory of the National India Rubber Co. (Bristol, Rhode Island), in the shape of tickets, slips, labels, and the like, not to mention the stationery required in the office, the company have installed in their plant an outfit for doing their own printing.

=Frank A. Magowan, formerly prominent in the rubber industry in Trenton, New Jersey, of which city he was also mayor at one time, appears to have turned his attention of late to invention, patents having been issued to him for an automobile tire constructed so as not to be injured in case of puncture, and also for a new article in air brake hose.

=The Robins Conveying Belt Co. (New York) have secured the contract for belt conveyors for the United States naval coaling station at Olongapo, Philippine islands. They are mentioned also as having secured a large order for belt conveyors for the Santander (Spain) iron mines.

=The Mitzel Rubber Co. (Carrollton, Ohio), have opened an office and placed a stock of their druggists' and other sundries at No. 205 Medinah temple, Chicago, under the management of Charles H. Ten Eyck.

=The Boston Woven Hose and Rubber Co. are said to be the largest manufacturers of tire tape in the United States.

=The Standard Rubber Co. (Trenton, New Jersey), mentioned in the last number of this paper as having been incorporated, has been organized by the election of James D. Brady, president; A. C. Reves, vice president; and John M. Wright, secretary and treasurer. These also comprise the board of directors.

=Yatman Rubber Manufacturing Co., manufacturers of molded goods at Newark, New Jersey, have removed from No. 224 High street to No. 267 Mt. Pleasant avenue.

=S. Birkenstein & Sons (Chicago), dealers in all kinds of rubber scrap, in connection with new and old metals, have, for the purpose of largely increasing their facilities, removed to new quarters—Nos. 64-74 Ontario street.

=The Canadian Rubber Co. of Montreal, Limited, were awarded a gold medal at the Provincial Exhibition at Halifax, Nova Scotia, last month, for their exhibition of general rubber goods, comprising belting, hose, packing, and the like, and also rubber footwear.

=C. J. Bailey (No. 22 Boylston street, Boston) has gone West on a tour in connection with his specialties, and also for his "Won't Slip" tire, which is already a wonderful success.

=Joseph G. Moomy, a veteran in bicycles and bicycle tires, is running an automobile tire repair shop in Erie, Pennsylvania, and doing some very interesting work in the repairing of damaged tires.

=The Continental Rubber Works (Erie, Pennsylvania) are doing a fine business in the manufacture of inner tubes for automobiles.

=Mr. D. C. Spraker of the Kokomo Rubber Co. (Kokomo, Indiana), has returned from a trip to the Pacific coast, during which he visited the Lewis and Clark Exposition at Portland, Oregon.

=Mr. Harry G. Woodard, well known and very popular wherever tires are marketed, has become the manager of the New York branch of the Diamond Rubber Co. (Akron, Ohio.)

=William Seward, Jr., has resigned his position as vice president of the Hartford Rubber Works Co., his connection terminating on September 30. Mr. Seward took an active interest in the factory baseball team, and on the date mentioned was given a silver loving cup by the members of the team.

=F. G. Saylor, of Franklin, Massachusetts, for some years connected with the rubber trade, is developing a new tire known as the "M. & S." It is not of the pneumatic type, but will be used chiefly for heavy vehicles.

=Mr. C. E. W. Woodward, formerly connected with The Fisk Rubber Co. (Chicopee Falls, Massachusetts), is acting as tire expert and counsel for the Knox Automobile Co., and the Olds Motor Works.

=The original and interesting little monthly *The Pneus*, edited by Mr. Burton R. Parker at Chicopee Falls, Massachusetts, and devoted, as may be judged from the title, to automobile tires, is one of the most entertaining publications in the trade.

=This is not in the line of an advertisement, but Mr. T. W. Miller of the Faultless Rubber Co. (Akron, Ohio), has for a year past been whirling around Akron, up and down its steep hills and over the questionable roads of its outskirts in a Franklin runabout which has had no disease at all during that time, not even "tire sickness."

=The factory of the U. S. Rubber Reclaiming Works at Buffalo, New York, continues to be enlarged and improved, indicating a constant growth in the business of the company. Reference to the company's advertisement on another page of THE INDIA RUBBER WORLD will show to the reader the latest and most comprehensive view of the buildings now occupied.

=The Swinehart Clincher Tire and Rubber Co. (Akron, Ohio) have established a New York office at No. 1773 Broadway, in charge of Mr. Herbert C. Comstock as manager.

=Creditors of the North American Rubber Co. (New York), in bankruptcy, have received notice from William H. Willis, referee, of a dividend declared on their claims, duly proved and allowed, of 7 per cent., payable on and after October 31.

=B. Loewenthal & Co. (Chicago and New York), dealers in old rubber, announce the withdrawal of Edward D. Loewenthal from their firm, as from September 21.

=Referring to rumors that the plant of the Falcon Rubber Co. (New Haven, Connecticut), was about to pass into new hands, an official, in connection with the regular monthly meeting of directors in October, was quoted as saying that no bid had been received for the property. The Falcon company was organized early in 1904 to make druggists' sundries, but has not been at work during the last six months.

=The Standard Self-Filling Fountain Pen Co. (Toledo, Ohio) have been encouraged by their success in marketing their patent fountain pen to put in plant for working their own hard rubber parts. They have installed three lathes and also buffing wheels and other machinery for turning, cutting, and polishing pen barrels, caps, and feeds, together with a die press for doing imprint work.

=The Foster rubber sole, manufactured by the Foster Rubber Co. (Boston), is being adopted by many large leather shoe manufacturers for next season's goods.

=Mr. B. T. Morrison, treasurer of the Reading Rubber Mills (Reading, Massachusetts), is on his way back from quite an extended vacation, most of it spent on the Pacific coast.

=The L. C. Chase Co. (Boston), whose robes are known the world over, are out with still another type of trouser robe for automobilists, which looks as if it were a winner.

=The repair factory attached to the Lovell Manufacturing Co. (Erie, Pennsylvania), is now turning out 4500 wringer rolls per day.

=Frank Reifsneider (Akron, Ohio) is selling to the rubber trade a white earth that he mines somewhere in the west, which he characterizes as Aluminum Flake.

=The Goodyear Tire and Rubber Co. (Akron, Ohio) sold last year 30,000 of their Saunders Pneumatic golf ball. This year the trade absorbed 30,000 dozen; a very healthy increase.

=Mr. Albert T. Holt, formerly of the Victor Rubber Co. (Springfield), has accepted a position with the Miller Rubber Manufacturing Co. (Akron, Ohio).

=It is reported that the Oregon Railroad and Navigation Co. have decided to equip all their passenger coaches with rubber matting instead of twine and carpet matting in the aisles, on account of the sanitary advantage from the change.

=Worcester Rubber Tire Duck Co. (Worcester, Massachusetts) September 22, 1905, under the laws of Maine; capital \$25,000. Incorporators: A. F. Moulton, E. G. Wilson, and John Howard Hill, all of Portland, Maine.

=The Forest City Rubber Co. (Cleveland, Ohio), October 17, 1905, under Ohio laws; capital, \$25,000. Incorporators: Fred. W. Hempy, Frank H. Hempy, John C. Poore, George C. King, William E. Crofut.

=Oriental Rubber Co., October 18, 1905, under the laws of New Jersey, with \$125,000 capital authorized. Incorporators: Otto H. C. Arendt, Otto Arendt, Jr., and Michael Sugrue, Jr., all of Newark, New Jersey. Mr. Arendt was one of the founders of the Paramount Rubber Co. (Newark) and was an officer in that company until the factory was disposed of to A. W. Faber.

=Referring to the elastic compound marketed by William H. Scheel (No. 139 Maiden lane, New York) mentioned in THE INDIA RUBBER WORLD, April 1, 1904 (page 239), it is announced that the same is now being offered at a material reduction from the prices hitherto ruling. This is a hydrocarbon mineral rubber, which has proved of no little interest to the trade.

=The Suffolk Rubber Co. (Setauket, Long Island), mentioned in THE INDIA RUBBER WORLD of April last as having been organized to make rubber shoes, and later as having begun work, are reported to have closed their factory.

PERSONAL MENTION.

MR. WILLIAM MILLS IVINS, president of the General Rubber Co., has consented to become the candidate of the Republican party for the office of mayor of New York city, at the elections on November 7. A sketch of Mr. Ivins appeared in THE INDIA RUBBER WORLD for August (page 364).

=Ex-Governor A. O. Bourn, of the Bourn Rubber Co. Providence (Rhode Island), has returned from his vacation spent in Jaffrey, New Hampshire, where he did not fish or shoot, but, as he expressed it, "simply held communion with nature."

=In St. Bartholomew's church, New York, on September 30, Miss Beatrice Wright was married to Mr. John Macy Gallaway. The bride was the daughter of the late John Bascom Wright, of San Francisco, and latterly has lived in New York with her uncle by marriage, George Crocker. Mr. Gallaway, who is connected with the United States Rubber Co., is the son of Robert M. Gallaway, president of the Merchants' National Bank (New York), and who was a director in the United States company for some time at the beginning.

=Mr. H. M. Sadler, Jr., who for some years was assistant treasurer of the United States Rubber Co. and for a while assistant general manager also, has become a member of the general stock and bond firm of Markle & Sadler, No. 52 Broadway, New York.

=Two representatives of the important German rubber works Hannoversche Gummi-Kamm-Co. Aktiengesellschaft -- Herr Gustav Bartl, one of the directors, and Dr. Paul Stockhardt, superintendent of the factory--while recently in the States favored THE INDIA RUBBER WORLD offices with a visit.

=Mr. Frederick H. Jones, who was recently elected general manager of the Tyer Rubber Co. (Andover, Massachusetts), has leased the Booth estate in that town and will occupy it as a residence.

=Mr. E. W. Maynard, president of the Maynard Rubber Corporation (Springfield, Massachusetts), issued invitations recently to a whale dinner, having received the present of some whale meat from Newfoundland, where such meat is reported to be canned extensively for export to England.

=The fact that Mr. Homer E. Sawyer, general manager of the United States Rubber Co., temporarily wears crutches does not indicate gout, but a sprained knee which he acquired by stepping hastily into a ten-foot pit while going over a rubber factory.

THE RUBBER TRADE IN AKRON.

BY A RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The Alden Rubber Co. and the Pure Gum Specialty Co., of Barberton, have entered into a working agreement, but one which cannot be denominated a consolidation, according to the officers of the companies. The larger stockholders of both companies are the same, and they have come to the conclusion that it would be more economical to manage both companies under one roof. The full force of both companies will be retained, but they will have their headquarters in the offices of the Alden company, with W. A. Johnson, treasurer of both companies, as general manager of the two plants. Charles C. Schutz, who has been superintendent of the Pure Gum Specialty Co., will be superintendent of both, and Oliver Joy, who has been secretary of the Alden Rubber Co., will have charge of the sales and the offices of both companies.

The Diamond Rubber Co., in accordance with their usual custom, sent a corps of expert tire makers and repairers to Long Island to look after the company's interests at the Vanderbilt cup races on October 14. There were 30 in the party, including the company's experts who went to Europe for the last Gordon Bennett cup race, in charge of Cliff Myers. The fact that all of the American machines in the race were equipped with "Diamond" tires naturally is a matter of self-congratulation on the part of the company.

At the annual meeting of The Diamond Rubber Co. on October 10 the board of directors was reelected without change, and subsequently the officers of the company were also reelected. It is reported unofficially that the capital stock of the company is to be increased to \$3,000,000, and the facilities increased correspondingly, though the company are not yet prepared to make any announcement of the details for publication.

The current report in the middle West that the duck hunting trip to which Messrs. Haskell and Work recently treated themselves was for the purpose of exploiting a new rubber cored bullet, seems to be an error. They used the old fashioned solid bullet, and in the contest were about equal in approaching. Mr. Haskell seemed to have the advantage in driving, but his lead was overcome by Mr. Work, who did some very fine putting. The score was suppressed.

The Motz Clincher Tire and Rubber Co., among the youngest rubber concerns in the city, have leased part of a factory plant, which they will occupy as business headquarters and for the shipment of their tires. Their rubber work will continue for the present to be done at the Buckeye Rubber Co.'s factory. The Motz company intend soon to exploit actively their European patents.

James Christy's Aladdin Rubber Co., at Barberton, is rapidly taking shape, the main factory building being nearly completed. It is expected that in the course of sixty days they will be turning out their special tire of reclaimed rubber, which is to be made by a new process, neither acid nor alkali.

It was an unusual occurrence when, on October 4, Governor Herrick addressed 2000 or more employes of The B. F. Goodrich Co., The Diamond Rubber Co., and the Alkali Rubber Co. in an open area near the three factories. The speech was made at the noon hour, when the men stopped work and absorbed mental and political pabulum instead of the usual midday meal. Governor Herrick spoke in the interest of his reelection and advocated the enactment of a law to protect bank depositors—a subject of interest in Akron on account of the recent losses to numerous rubber workers and others through a bank failure.

All the rubber factories in the city were closed on October 5, on account of the Summit county fair. This is something that has never occurred before, and the attendance at the fair was swelled several thousands in consequence.

The M. & M. Manufacturing Co., hitherto a partnership between Frank C. Millhoff and E. C. Gammeter, has been incorporated under the laws of Ohio, with \$12,000 capital, and will continue to manufacture rubber cement.

Mr. James A. Braden, advertising manager of The Diamond Rubber Co., and well known also as an author and former newspaper man, took a vacation during the first part of October, spending "Home week" in his native town, Warren, Ohio.

The people of Akron, having decided to have a first class Country Club, have been presented with the Casino building, a fine edifice for indoor sports, owned by Messrs. B. G. Work, C. C. Goodrich, A. H. Marks, and others of the young men connected with the rubber trade of the city.

Mr. Frank Seiberling, of the Goodyear Tire and Rubber Co., was lately on the Pacific coast.

THE TEXTILE GOODS MARKET.

THE cotton duck market at this writing rules exceedingly strong, with no indication of a decline. The supply according to best reports is not more than adequate to the demand. It is assumed by those who should know that existing conditions supply and demand almost irrespective of the price of raw cotton will sustain the price of cotton goods. The government report of the amount of cotton ginned to October 18 showed 4,940,728 bales as against 6,417,894 bales for the corresponding period last year. Regarding this report a competent authority writes:

"The practically unanimous opinion, however, is that the report was susceptible of but one construction, and that a bullish one indicating a crop of 10,000,000 bales or less, or practically the same as that of two years ago, though some of the more radical bulls insist that it points to a yield of not much if anything over 9,500,000 bales. Others who consider themselves conservative bulls put the crop at 10,500,000 to 10,750,000 bales but add that it will be inadequate to the demand for consumption which they estimate at from 12,000,000 to 12,500,000 bales."

The call from the rubber shoe trade is equally as active as that of the mechanical goods industry and it is estimated that when the contract price is fixed, which will probably be within the current month, that it may be higher than that of last season. So far as the speculative tendency is concerned, it is stronger than it has been in two years. Rubber manufacturers while necessarily purchasing in the open market to satisfy existing needs show no disposition to anticipate, pending the fixing of the contract basis. Sheetings adapted for rubber trade consumption are in very active request, though the paucity of supply renders deliveries within the current year virtually impossible. Staple cotton is fully 25 per cent. stronger than it was last year, when it was necessary as it generally is to mix the raw material with the seasoned cotton.

This year's crop being of superior quality, mixing was unnecessary and the standard fixed by the government much easier to meet. Competent authority asserts that cotton will not recede from its present figure this fall and claims that 12 cent cotton will be one of the market features of the early future. The undeniable strength and advancing prospects of the cotton market have not up to this time affected the conservative policy of rubber trade buyers.

Mill agents state that general buyers outside the rubber trade are inclined somewhat to speculation, showing a more pronounced disposition in this respect than in previous years. A strong factor in the present strength of cotton lies in the scarcity of labor, which is asserted to be 20 per cent. less than its requirement. It is claimed that 1 per cent. of the total cotton crop is consumed in the rubber trade.

NEW TRADE PUBLICATIONS.

THE B. F. GOODRICH CO. (Akron, Ohio) issue an interesting booklet under the title "From Tree to Tire", the purpose of which is to illustrate the various stages of rubber from its source in the South American forests, first to the company's factory, and then through various mechanical processes to the form of completed, inspected, and tested automobile tires. The illustrations are numerous, informing, and well executed half tones. [5¼" × 7¼". 22 pages.]

THE CONTINENTAL CAOUTCHOUC CO. (New York) issue a catalogue of "Continental Tires," made at Hannover, Germany, with detailed accounts of their merits, together with prices and testimonials from users; also a compilation of records made in automobile contests. A list of tire accessories is included. [5½" × 8¼". 24 pages.]—"Opinions of Users of Continental Tires" is a brochure made up of reproductions in facsimile of letters from well known automobilists. [5½" × 8". 16 pages.]

HODGMAN RUBBER CO. (Nos. 806 808 Broadway, New York) issue an interesting priced catalogue of Automobile and Motor Boat Clothing and Sundries, in which are illustrated a number of attractive styles for men's and women's cloaks, jackets, and caps. [3¼" × 6¼". 31 pages.]

THE OHIO RUBBER CO. (Cleveland and Cincinnati, Ohio) issue for the season 1905-06 a catalogue of Storm Proof Clothing—attractive both as a catalogue and on account of the styles illustrated—including mackintoshes, cravenette goods, rubber surface specialties, and oil clothing. [4" × 9¼". 16 pages.]—Accompanied by an 8 page price list.

THE various trade catalogues, price lists, and descriptive circulars issued by THE CANADIAN RUBBER CO. OF MONTREAL, LIMITED, would, if combined in one general catalogue, form a volume of several hundred pages. The company have preferred, however, to devote separate publications to different lines of goods—as Belting, Hose, and Packing; or to classes—as Fire Department Supplies, Druggists' Sundries, Rubber Footwear, and so on. They are thus able to place in the hands of each actual or possible customer printed matter bearing directly upon his interest. Several of their recent issues have been noticed in these pages, but an inspection of a complete set of these catalogues which has been received gives a better impression of the extent and variety of the company's production in rubber goods, than a review of them separately as published. Some of the special lists relate to hoof pads, "Everstick" rubber shoes, printers' blankets, waterproof textile goods, and so on. This collection embodies 21 separate publications, all in English except a catalogue of *Claques et Bottes en Caoutchouc* (rubber boots and shoes) in French.

R. & E. HUBER (Pfäffikon, near Zurich), the first manufacturers in Switzerland of technical India rubber and Gutta-percha goods—having added some ten years ago a branch for this purpose to their wire and cable factory, founded in 1880—have issued a handsomely got up *Preis-Courant* of mechanical rubber goods, such as hose, packings, belting, mats, *et cetera*, together with some items of asbestos and also hard rubber. The matting designs shown are very attractive. [5¼" × 9". 54 pages.]

THE PEERLESS RUBBER MANUFACTURING CO. (New York), in a booklet entitled "A Few Remarks," puts in a novel and readable style some of the good points of "Rainbow" packing. [3½" × 6½". 16 pages.]

ANCHOR TILE CO. (Trenton, New Jersey) issue a book descriptive of their Anchor Rubber Tiling, with a number of views illustrating the variety of attractive color schemes which are possible by the use of this tiling. The Anchor tiling was described in THE INDIA RUBBER WORLD February 1, 1905—page 160. [7¼" × 8¼". 16 leaves.]

ALSO RECEIVED.

WM. F. MAYO & CO., Boston.—Fall Catalogue No. 6—September, 1905. 100,000 cases Rubber Boots and Shoes [at bargain sales]. 32 pages.

The Rubber Chemical Co., Limited, Birmingham, England.—Concerning Nantusi. [A preservative preparation for rubber goods.] 8 pages.

The Seamless Rubber Co., New Haven, Connecticut.—Dr. Tullar's Hygienic Douche Appliances for Women. 16 pages.

A MATTER WORTH LOOKING INTO.

[FROM LA VETA (COLORADO) "ADVERTISER."]

WE have at last obtained a sample of the genuine rubber weed direct from Buena Vista, sent by Mr. Peter Smith. This sample shows both root and bloom surrounded with cotton. It greatly resembles a weed which grows in abundance along our country roads, but whether it is the same or flourishes in these parts, we are not at present prepared to say. Those interested are invited to examine this specimen and compare it with anything else they can find. The matter is worth looking into.

CANDY BARRED FROM A RUBBER MILL.

ONE of the Providence newspapers reports the issuing of an order, at the Woonsocket factory of the Woonsocket Rubber Co., forbidding the employes during working hours to suck "lollypops." Not only the 600 girls employed in the mill, but a number of the men were indulging in these sweets to an extent, so it is said, that led the superintendent—though fond of lollypops himself—to fear that their work would be interfered with. Hence the order, which is said to have been obeyed, but not without filling the place with gloom.—The "Century Dictionary" defines "lollypop" as "A coarse sweetmeat, made of sugar and treacle, usually with the addition of butter and flour; taffy. [English.]"

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values of exports of manufactures of India-rubber and Gutta-percha, for the month of August, 1905, and for the first eight months of five calendar years:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
August, 1905.....	\$118,880	\$182,102	\$ 244,769	\$ 545,757
January-July.....	637,102	588,309	1,671,076	2,896,487
Total.....	\$755,988	\$770,411	\$1,915,845	\$3,442,244
Total, 1904.....	570,972	651,392	1,600,574	2,822,938
Total, 1903.....	568,797	507,897	1,655,396	2,732,090
Total, 1902.....	450,571	524,629	1,298,132	2,282,652
Total, 1901.....	368,917	301,307	1,203,086	1,873,310

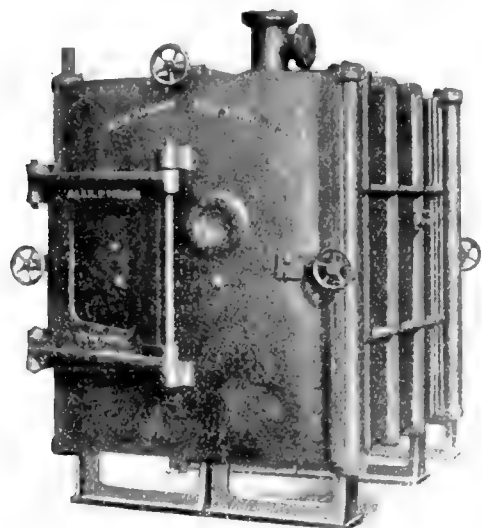
VACUUM DRYING OF RUBBER.

THE vast economic value of this process, the great rapidity with which the drying of materials *in vacuo* is accomplished, the low temperatures at which it can be carried on, the great saving in fuel, space, and labor, the improvement vacuum drying exercises upon the materials, the large daily production of a comparatively small apparatus when compared with the space occupied by drying rooms, etc., all of which have become so well established and known at this date through the many vacuum drying plants operated in the United States and in Europe, that no more need be added in its praise.

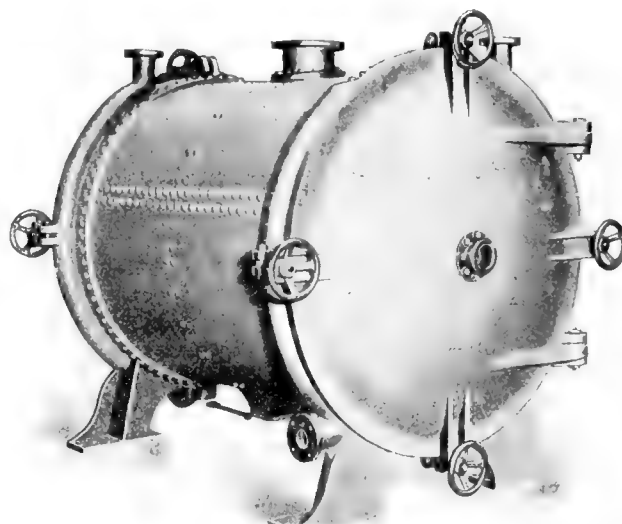
To Mr. A. P. Mende is due to have been the first in the United States to construct vacuum drying chambers and to bring them to successful operation in his own chemical and

color works, thence advocating the adoption of this economic process among the various American industries. Dr. Mende's experience in this line runs over a period of 15 years and hundreds of materials of all kind came to his hands for drying in vacuo; the results of which are to-day embodied in the vacuum apparatus that are now built and sold by Messrs. Norman Hubbard's Sons Machine Works, Nos. 265-267 Water street, Brooklyn, N. Y., and where a series of testing plants are operated for the convenience of prospective patrons.

Messrs. Norman Hubbard's Sons Machine Works offer the apparatus in rectangular and in cylindrical styles, in all practical dimensions, made of cast iron, wrought iron or steel, with plate shelves or shelf coils inside, or in shape of vacuum tunnels for use of racks and cars of any description, all in first class workmanship and at reasonable prices.



RECTANGULAR VACUUM CHAMBER.



CYLINDRICAL VACUUM CHAMBER.

REVIEW OF THE CRUDE RUBBER MARKET.

EARLY in the month just closed a decline in prices began, which continued for a fortnight, since which time the lower level then reached has remained practically without change, though at the end of the month the market presents a condition of more firmness. The decline first applied to Pará sorts, following reports of larger arrivals at the primary markets, and in view of some of the larger consumers being apparently well provided with supplies. Later the decline extended to Africans and other medium sorts. Pending the important Antwerp sale of October 23, when over 500 tons were to be offered, and a feeling prevailed that a lower standard of prices would result, the market, particularly for Africans, became very quiet. The result of the sale, however, was that higher prices were realized for the better qualities than had prevailed previously, and in consequence there has been a general stiffening in prices of all sorts.

Receipts at Pará (including Caucho) since the beginning of the crop season have been as follows:

	1903.	1904.	1905.
July	1200	1280	1250
August	1370	1230	1260
September	1670	2010	1780
October	2280	2440	2820
Total	6600	6960	7110
— To October —			
			7850

Following is a statement of prices of Pará grades, one year ago, one month ago, and on October 31—the current date:

PARÁ.	November 1, '04.	October 1, '05.	October 31.
Islands, fine, new	112@113	127@128	118@119
Islands, fine, old	none here	none here	none here
Upriver, fine, new	115@116	129@130	121@122
Upriver, fine, old	none here	132@133	132@133
Islands, coarse, new	64@65	71@71	68@69
Islands, coarse, old	none here	none here	none here
Upriver, coarse, new	88@89	92@93	89@90
Upriver, coarse, old	none here	none here	none here
Caucho (Peruvian) sheet	67@68	73@74	70@71
Caucho (Peruvian) ball	77@78	85@86	85@86

The decline in Africans has been less marked; some grades are without change, as follows:

AFRICAN.	CENTRALS.
Sierra Leone, 1st quality 100@101	Esmeralda, sausage...82 @83
Massai, red..... 100@101	Guayaquil, strip.....70 @71
Benguella. 79@80	Nicaragua, scrap... .81 @82
Cameroon ball..... 69@70	Panama, slab.....62 @63
Accra flake..... 26@27	Mexican, scrap.....81 @82
Lopori ball, prime.... 109@110	Mexican, slab.....60 @62
Lopori strip, prime.... 92@93	Mangabeira, sheet....70 @71
Madagascar, pinky.... 90@91	EAST INDIAN.
Ikelemba 109@110	Assam.....95 @96
	Borneo.....44 @45

Late Pará cables quote:

	Per Kilo.	Per Kilo.
Islands, fine.	5\$450	Upriver, fine..... 6\$300

Islands, coarse	2\$450	Upriver, coarse.....	4\$200
Exchange, 16 $\frac{1}{2}$ d.			
Last Manáos advices:			
Upriver, fine.....	6\$300	Upriver, coarse.....	3\$800
Exchange, 16 $\frac{1}{2}$ d.			

Statistics of Para Rubber (Excluding Caucho).

NEW YORK.					
	Fine and Medium.	Coarse.	Total 1905.	Total 1904.	Total 1903.
Stocks, August 31.....	231	85 =	316	93	168
Arrivals, September.....	240	273 =	513	691	954
Aggregating.....	471	358 =	829	784	1122
Deliveries, September.....	220	292 =	512	740	1025
Stocks, September 30..	251	66 =	317	44	97
PARÁ.					
	1905.	1904.	1903.	1905.	1904.
Stocks, August 31.....	275	360	120	380	200
Arrivals, September...	2055	1741	1980	652	593
Aggregating.....	2330	2101	2100	1032	793
Deliveries, September.	1853	1728	1860	725	575
Stocks, Sept. 30..	477	373	240	307	218
ENGLAND.					
	1905.	1904.	1903.	1905.	1904.
World's visible supply, September 30..	1967	1463	1719	1967	1463
Pará receipts, July 1 to September 30.....	4535	3951	4500	4535	3951
Pará receipts of Caucho, same dates.....	385	349	415	385	349
Afloat from Pará to United States, Sept. 30 ..	307	303	492	307	303
Afloat from Pará to Europe, September 30....	499	525	650	499	525

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Since our report of September 20 a small sale of about 38 tons took place on October 6, at firm prices. Red Loanda firsts were paid *fc.* 12.40; black ditto *fc.* 12.42½; red Loanda seconds *fc.* 8.15; red Angola thimbles firsts *fc.* 11.37½; black ditto *fc.* 11.52½; Ikelemba partly sticky from 11.17½ to *fc.* 11.65.

The next large sale will be held on October 25, when 511 tons will be exposed. The usual Congo sorts, as Uelé, Aruwimi, Djuma, Congo Sangha, Maringa, Upper Congo balls and Kasais are represented by larger lots. Arrivals per steamer *Anversville* from the Congo on October 10, 541 tons.

Antwerp, October 17, 1905. C. SCHMID & CO., SUCCESEURS.

CABLE reports indicate that the Antwerp sale realized prices generally higher than the brokers' valuations, by 2 to 3 per cent. The General Rubber Co. (New York) are reported to have been the heaviest buyers.

RUBBER ARRIVALS AT ANTWERP.

SEPTEMBER 21.—By the *Philippville*, from the Congo:

Bunge & Co.....	(Société Générale Africaine) kilos.	74,000
Do	(Chemins de fer Grand Lacs)	7,000
Do .....	.....	18,000
Do	(Société A B I R)	16,000
Do	(Cie. du Kasai)	112,000
Comptoir Commercial Congolais .....	.....	2,500
Société Equatoriale Congolaise...(Société l'Ikelemba)	.....	2,500

Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers for carload lots, in cents per pound—show a general increase over last month's figures, as follows:

Old Rubber Boots and Shoes—Domestic.....	8½ @ 8½
Do.....	—Foreign.....
Pneumatic Bicycle Tires.....	5¼ @ 5½
Solid Rubber Wagon and Carriage Tires.....	8½ @ 8½
White Trimmed Rubber.....	9½ @ 9¾
Heavy Black Rubber.....	5¼ @ 6
Air Brake Hose.....	3¾ @ 3¾
Fire and Large Hose.....	3 @ 3¼
Garden Hose.....	2½ @ 2½
Matting.....	1¼ @ 1½

WANTED.

QUOTATIONS are wanted for grinding Hard Rubber Scrap and Shavings. Address S. E., care of THE INDIA RUBBER WORLD.

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M. S. Cols	(Alima)	4,000
Do	(Société Baniemba)	1,500
Cie. Commerciale des Colonies.....	(Cie. Française du Congo)	7,500
Do	(Cie. de l'N'Kéme et l'N'Kéni)	4,000
Comptoir des Produits Coloniaux (Ekela Kadei Sangha)	.....	8,000
Do	(Société "N'Goko" Sangha)	2,500
Société Coloniale Anversoise (Belge du Haut Congo)	.....	9,500
Do	(Cie. de Lomami)	31,000
Do	(Sud Kamerun)	2,500
Charles Dethier.....	(Société La "M'Poko")	1,600
		3,000

307,100

OCTOBER 10.—By the *Anversville*, from the Congo:

Bunge & Co.....	(Société A B I R) kilos	29,000
Do	(Société Générale Africaine)	155,000
Do	(Chemins de fer Grand Lacs)	24,000
Do .....	.....	30,000
Do	(Société "La Kotto")	8,500
Do	(Sultanats du Haut Ubangi)	33,000
Société Coloniale Anversoise (Belge du Haut Congo)	.....	10,000
Do	(Sud Kamerun)	4,000
Do	(Cie. de Lomami)	13,000
Do	(Cie. du Kasai)	89,000
Do .....	.....	5,500
Comptoir Commercial Congolais .....	.....	37,000
Cie. Commerciale des Colonies (Cie. de l'N'Kéme et l'N'Kéni)	.....	3,000
Do	(la Haut Sangha)	25,000
Comptoir des Produits Coloniaux (Ekela Kadei Sangha)	.....	38,000
Do	Société N'Goko Sangha	2,000
G. & C. Kreglinger.....	(Société La Lobay)	9,000
Charles Dethier.....	(Société La M'Poko)	21,000
Do	(Belgika)	1,000
Société Générale de Commerce.....	(Alimaenne)	4,000
M. S. Cols .....	.....	500

541,500

ANTWERP RUBBER STATISTICS FOR AUGUST.

DETAILS.	1905.	1904.	1903.	1902.	1901.
Stocks, July 31.....	819,559	872,746	377,527	689,772	1,040,441
Arrivals in August.....	509,389	244,704	347,062	321,192	286,816
Congo sorts	375,293	221,065	322,136	24,771	267,911
Other sorts	134,126	23,039	24,926	27,117	18,877
Aggregating.....	1,328,948	1,117,450	724,589	1,010,964	1,327,257
Sales in August.....	770,746	514,955	404,603	254,563	642,902
Stocks, August 31.....	558,202	602,495	319,986	756,401	684,355
Arrivals since Jan. 1.....	3,719,673	3,709,621	3,326,304	3,558,836	3,838,870
Congo sorts	2,911,271	3,011,287	2,971,327	3,295,639	3,114,470
Other sorts	808,402	698,334	354,977	263,287	724,400
Sales since Jan. 1.....	3,702,832	3,718,026	3,664,515	3,217,144	3,758,464

ANTWERP RUBBER STATISTICS FOR SEPTEMBER.

DETAILS.	1905.	1904.	1903.	1902.	1901.
Stocks, Aug. 31.....	558,202	602,495	319,986	756,401	684,355
Arrivals in Sept.....	339,575	772,200	455,762	470,084	887,246
Congo sorts	210,371	1,122,243	412,435	470,811	871,166
Other sorts	99,984	149,957	143,327	199,273	15,080
Aggregating.....	897,777	1,374,695	775,748	1,226,485	1,571,611
Sales in September.....	331,042	579,213	353,890	769,774	675,478
Stocks, Sept. 30..	566,735	804,482	421,855	456,711	896,143
Arrivals since Jan. 1.....	4,059,248	4,481,821	3,782,156	4,028,920	4,726,126
Congo sorts	3,121,194	3,011,287	3,412,763	3,725,404	4,825,511
Other sorts	608,054	149,957	369,393	303,516	90,615
Sales since Jan. 1.....	4,033,874	4,288,239	4,018,403	3,986,918	4,443,932

THE firm of Richard Meyers & Co. has been established (117, Place de Meir), to deal principally in India-rubber on a commission basis.

Para.

KANTHACK & Co. reported:

September 30.—The past week has been characterized by a quieter tone in consequence of the lowering of values at the consuming markets, and with a weaker demand prices had to give

way to encourage business. At the modified prices business became more animated, but the market is to-day quite upset in consequence of a sudden and very considerable decline of exchange. Quotations are therefore quite nominal.

Rubber Receipts at Manaos.

DURING September and three months of the crop season for three years [courtesy of Messrs. Scholz & Co.] :

FROM—	SEPTEMBER.			JULY-SEPTEMBER.		
	1905.	1904.	1903.	1905.	1904.	1903.
Rio Purús—Acre..... tons	511	403	429	1167	909	886
Rio Madeira	316	193	263	786	672	755
Rio Jurua.....	222	190	254	316	215	256
Rio Javary—Iquitos. . .	444	68	71	564	281	185
Rio Solimões.	166	32	59	210	42	84
Rio Negro.....	1	3	...	6	3	15
Total.....	1600	889	1076	3049	2122	2181
Caucho.....	212	40	153	398	218	341
Total.....	1812	929	1209	3447	2340	2522

Bordeaux.

CAOUTCHOUC PRICES [FRANCS PER KILO] OCTOBER 14.

Soudan twists.....	9.50@10.	Gambia C	5.
Lahou twists	9.40@ 9 75	Lahou cakes	8.10@ 8.35
Soudan niggers	10.25@11.	Lahou niggers.....	10.10@10 80
Conakry niggers	11. @11.20	Bassam lumps.....	6. @ 6.25
Gambia A. P.....	8 50	Bassam niggers.....	7 50@ 9 25
Gambia A.....	7.80	M'dg'car—Tamatave 9.	@ 9.25
Gambia A. M.....	7.	Do Majunga. 7.	@ 7 50
Gambia B	6.	Do Morandova 8.50@	q.

R. HENRY.

Rotterdam.

THE death is announced, at s' Graven Hage (The Hague), on October 14, of Heer JULIUS WEISE, head of the firm Weise & Co., long established as importers of India-rubber and Gutta-percha at Rotterdam.

Hamburg.

A CORRESPONDENT OF THE INDIA RUBBER WORLD writing from Liverpool on the statistical position of rubber says :

"Hamburg in particular is becoming every year a more important center for the importation of rubber, both African, Central American, and Brazilian, and it seems a great pity that those interested in the progress of Hamburg as a rubber market should not make some effort to demonstrate the importance of their market by the issuing of proper and reliable statistics."

Liverpool.

WILLIAM WRIGHT & Co. report [October 2] :

Fine Para.—The market has been quiet, with few fluctuations. The loss of the *Cyril* [see page 45 this issue] had comparatively little effect in the market. Manufacturers continue to buy sparingly, and sellers on the other hand are chary of offering far ahead, owing to uncertainty as to the future. The Pará and Manaós markets have been active throughout the month, and there has been some resumption of American buying, which was only to be expected. Receipts are fairly liberal, and are expected to continue heavy, so that, unless American buyers force prices—and we are glad to note so far they have shown no signs of doing so—we may expect an easement in prices.

Africans have been in good request during the month, and a fair business has been done. Owing to small supplies prices have in some cases advanced, more especially red Sierra Leone and Gold Coast lump; value of the former 4s. 2½d., and latter 2s. 6d., after having touched 2s. 4d.

EDMUND SCHLÜTER & Co. report [September 30] :

The market for Pará grades has been quiet, and with the exception of a short-lived advance to 5s. 8d., following the loss of 200 tons rubber in the steamer *Cyril*, prices of fine have tended in buyers' favor. Caucho advanced owing to scarcity of supplies. The tendency at the close was distinctly towards lower prices, and from Brazilian information it would appear that supplies will be equal or surpassing any normal demands.

The world's visible supply of Pará on September 30 was :

	1905.	1904.	1903.	1902.	1901.
Tons.....	2311	1719	1870	2759	2854
Prices, hard fine.....	5/5½	4/9½	4/8	3/13¼	3/8

LIVERPOOL STOCKS OF AFRICAN RUBBER, SEPTEMBER 30.

1905	266	1902....	524	1899....	580
1904.....	402	1901.....	722	1898.....	381
1903.....	217	1900....	725	1897....	373

London.

EDWARD TILL & Co. report stocks [October 2] :

	1905.	1904.	1903.
Pará sorts..... tons	—	—	—
Borneo.....	71	52	14
Assam and Rangoon.....	40	4	5
Penang.....	400	—	—
Other sorts.....	182	488	178
Total.....	693	544	197
Pará.....	305	220	243
Caucho.....	56	212	31
Other sorts.....	435	690	395
Total, United Kingdom.....	1489	1666	866
Total, September 1....	1694	1508	1364

PRICES PAID DURING SEPTEMBER.

	1905.	1904.	1903.
Pará fine, hard..	5/ 6¼ @ 5/ 8	4/ 8½ @ 4/ 11½	4/ 2 @ 4/ 8¼
Do soft.....	5/ 5½ @ 5/ 7½	4/ 8½ @ 4/ 11	4/ 2 @ 4/ 7¾
Negroheads, scrappy..	3/ 11 @ 4/	3/ 7½ @ 3/ 10	3/ 3½ @ 3/ 8½
Do Cametá. 3/ 1¼ @ 3/ 2	2/ 7½ @ 2/ 9	2/ 10¼	
Bolivian.....	5/ 6½ @ 5/ 7½	4/ 4 @ 5/ 0½	
Caucho, ball.....	3/ 8½ @ 3/ 9½	3/ 2½ @ 3/ 5½	3/ 3½ @ 3/ 7½
Do slab.....	3/ 1½ @ 3/ 2	2/ 9½ @ 2/ 10	2/ 7½ @ 2/ 10½
Do tails.....	3/ 3¼	No sales	3/ 1 @ 3/ 1½

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

October 4.—By the steamer *Dunstan*, from Manaós and Pará :

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
General Rubber Co.....	113,700	14,800	95,800	1,600=	225,900
New York Commercial Co.	91,300	11,800	48,200	...=	151,300
Poel & Arnold.....	51,900	6,700	72,700	3,200=	134,500
A. T. Morse & Co.....	16,800	3,700	28,400	2,000=	50,900
Neale & Co.....	1,400	...	70,800	...=	72,200
Constantine P. Santos....	24,800	2,500	1,300	...=	28,600
Lionel Hagenauers & Co..	24,000	...	4,100	...=	28,100
Edmund Reeks & Co.....	19,700	900	3,900	...=	24,500
Thomsen & Co.....	...	...	14,600	...=	14,600
Hagemeyer & Brunn.....	13,700	...	...	...=	13,700
Wallace L. Gough.....	...	...	5,700	...=	5,700
Total	347,300	40,400	345,500	6,800=	750,000

October 16.—By the steamer *Maranhense*, from Manaós and Pará :

General Rubber Co	156,500	40,800	57,200	1,800=	256,300
New York Commercial Co.	109,100	17,900	43,700	...=	170,700
Poel & Arnold.....	14,300	5,000	87,400	...=	106,700
A. T. Morse & Co.....	4,100	1,300	68,900	400=	74,700
Neale & Co.....	1,800	...	41,100	...=	42,900
Edmund Reeks & Co	20,400	300	13,400	...=	34,100
Lionel Hagenauers & Co..	12,900	...	4,700	...=	17,600

Total.. . . . 319,100 65,300 316,400 2,200= 703,000

October 25.—By the steamer *Fluminense*, from Manaós and Pará :

New York Commercial Co.	331,000	59,800	92,400	6,600=	489,800
A. T. Morse & Co.....	143,400	19,400	55,600	1,400=	219,800
Poel & Arnold.....	92,800	22,500	59,900	1,300=	176,500
General Rubber Co.....	82,000	16,200	21,700	5 000=	124,900
Constantine P. San Tos..	24,400	5,500	10,500	3,100=	43,500
Edmund Reeks & Co.....	22,600	2,000	11,100	...=	35,700
Neale & Co.....	1,000	300	29,100	...=	30,400
Lionel Hagenauers & Co..	9,800	...	5,400	...=	15,200
Lawrence Johnson & Co..	5,000	6,300	1,200	...=	12,500
Hagemeyer & Brunn.....	...	...	11,300	...=	11,300
Wallace L. Gough.....	...	...	3,800	...=	3,800

Total..... 712,000 132,000 302,000 17,400= 1,163,400

[NOTE.—The steamer *Justin*, from Pará, is due at New York, November 4, with 450 tons Rubber.]

PARA RUBBER VIA EUROPE.

SEPT. 25.—By the <i>Celtic</i> =Liverpool:	
A. T. Morse & Co (Coarse).....	11,500
SEPT. 27.—By the <i>Caronia</i> =Liverpool:	
New York Commercial Co. (Fine)....	22,500
A. T. Morse & Co. (Coarse).....	21,500
45,000	
SEPT. 29.—By the <i>Finance</i> =Mollendo:	
Boston and Bolivia Co. (Fine).....	9,000
OCT. 4.—By the <i>Majestic</i> =Liverpool:	
A. T. Morse & Co. (Coarse).....	11,000
OCT. 14.—By the <i>Campania</i> =Liverpool:	
New York Commercial Co. (Fine)....	29,000
OCT. 23.—By the <i>Celtic</i> =Liverpool:	
Poel & Arnold (Coarse).....	25,000
OCT. 23.—By the <i>Alliance</i> =Mollendo:	
Boston and Bolivia Co. (Fine).....	8,500

OTHER ARRIVALS AT NEW YORK.

CENTRALS.

SEPT. 25.—By the <i>Minneapolis</i> =London:	
General Rubber Co.....	33,500
SEPT. 26.—By the <i>El Monte</i> =New Orleans:	
Manhattan Rubber Mfg. Co.....	2,000
Eggers & Heinlein.....	2,210
Thebaud Brothers.....	800
5,000	
SEPT. 27.—By the <i>Sarnia</i> =Colombia:	
Fould & Co.....	3,000
A. Held.....	1,000
Schultzen & Groschen.....	1,200
Isaac Brandon & Bros.....	600
A. D. Straus & Co.....	600
6,400	
SEPT. 27.—By the <i>San Marcos</i> =Galveston:	
Continental Mexican Rubber Co.....	70,000
SEPT. 29.—By the <i>Finance</i> =Colon:	
Hirzel, Feltman & Co.....	2,400
Eggers & Heinlein.....	1,500
Mann & Emdon.....	1,000
4,900	
SEPT. 30.—By the <i>Segurana</i> =Mexico:	
H. Marquardt & Co.....	2,500
Harburger & Stack.....	500
American Trading Co.....	500
3,500	
OCT. 2.—By the <i>Lampasas</i> =Mobile:	
Manhattan Rubber Mfg. Co.....	5,500
OCT. 2.—By the <i>Minnehaha</i> =London:	
General Rubber Co.....	13,500
OCT. 4.—By the <i>Advance</i> =Colon:	
G. Amsinck & Co.....	8,100
J. A. Medina & Co.....	5,100
E. B. Strout.....	2,200
D. A. De Lima & Co.....	2,000
Hirzel, Feltman & Co.....	1,400
Charles E. Griffin.....	1,400
Roldan & Van Sickle.....	1,300
Lawrence Johnson & Co.....	500
Meyer Hecht.....	500
Harburger & Stack.....	500
23,000	
OCT. 7.—By the <i>Yucatan</i> =Mexico:	
Harburger & Stack.....	2,000
Thebaud Brothers.....	2,500
H. Marquardt & Co.....	1,500
E. Steiger & Co.....	1,000
W. Loalza & Co.....	500
7,500	
OCT. 7.—By the <i>Cedric</i> =Liverpool:	
General Rubber Co.....	17,000
OCT. 9.—By the <i>El Alba</i> =Galveston:	
Continental Mexican Rubber Co.....	30,000
Eggers & Heinlein.....	1,500
31,500	
OCT. 10.—By the <i>Celtic</i> =Liverpool:	
J. H. Rossbach & Bros.....	15,500
OCT. 11.—By the <i>Mexico</i> =Colon:	
Lawrence Johnson & Co.....	21,100
Hirzel, Feltman & Co.....	15,400
Dumarest Bros. & Co.....	9,100
G. Amsinck & Co.....	4,400
Roldan & Van Sickle.....	4,300
Isaac Brandon & Bros.....	3,000
A. Santos & Co.....	2,500
Mann & Emdon.....	2,000
A. M. Capen's Sons.....	2,000
W. R. Grace.....	1,600
R. L. Ballza.....	1,200
Banco de Exportasos.....	1,000
Kunhardt & Co.....	500
63,100	

CENTRALS—Continued.

OCT. 11.—By the <i>Matanzas</i> =Mexico:	
George A. Alden & Co.....	2,500
J. W. Wilson & Co.....	4,000
Harburger & Stack.....	1,000
27,500	
OCT. 11.—By the <i>Rio Grande</i> =Mobile:	
A. T. Morse & Co.....	4,500
Manhattan Rubber Mfg. Co.....	1,500
6,000	
OCT. 14.—By the <i>Thioretto</i> =Bahia:	
Hirsch & Kaiser.....	45,000
American Commercial Co.....	22,500
67,500	
OCT. 14.—By the <i>Esperanza</i> =Mexico:	
L. N. Chemedlin & Co.....	1,500
Fred Probst & Co.....	1,200
Harburger & Stack.....	1,100
Thebaud Brothers.....	1,000
E. Steiger & Co.....	1,200
6,000	
OCT. 17.—By the <i>Havana</i> =Colon:	
G. Amsinck & Co.....	11,100
E. B. Strout.....	3,800
Smithers, Nordenholt & Co.....	1,300
J. A. Medina & Co.....	1,800
Hirzel, Feltman & Co.....	2,500
Mann & Emdon.....	1,800
Lawrence Johnson & Co.....	2,000
Banco de Exportasos.....	1,500
Issac Brandon & Bros.....	700
United Fruit Co.....	700
Lanman & Kemp.....	500
27,700	
OCT. 17.—By the <i>El Dia</i> =Galveston:	
Continental Mexican Rubber Co.....	22,500
OCT. 19.—By the <i>Alamo</i> =Mobile:	
A. N. Rotholz.....	6,000
A. T. Morse & Co.....	5,000
G. Amsinck & Co.....	1,000
12,000	
OCT. 20.—By the <i>Maraval</i> =Bolívar:	
Thebaud Brothers.....	22,500
European Account.....	12,000
34,500	
OCT. 23.—By the <i>Vigilancia</i> =Mexico:	
H. Marquardt & Co.....	1,000
American Trading Co.....	500
E. N. Tibbals Co.....	500
Graham, Hinkley & Co.....	500
2,500	
OCT. 23.—By the <i>Alliance</i> =Colon:	
Hirzel, Feltman & Co.....	13,200
G. Amsinck & Co.....	7,800
Piza, Nephews & Co.....	5,000
J. A. Medina & Co.....	4,500
E. B. Strout.....	1,500
Meyer Hecht.....	800
George A. Alden & Co.....	800
33,600	
OCT. 23.—By the <i>Byron</i> =Bahia:	
Hirsch & Kaiser.....	11,500
American Commercial Co.....	8,500
A. D. Hitch & Co.....	6,000
Lawrence Johnson & Co.....	3,000
29,000	

AFRICANS.

SEPT. 25.—By the <i>Celtic</i> =Liverpool:	
A. T. Morse & Co.....	41,000
Poel & Arnold.....	23,000
George A. Alden & Co.....	11,500
General Rubber Co.....	11,500
A. W. Brunn.....	8,500
Wallace L. Gough.....	3,100
98,500	
SEPT. 25.—By the <i>Finland</i> =Antwerp:	
Poel & Arnold.....	30,000
A. T. Morse & Co.....	21,000
51,000	
SEPT. 25.—By the <i>Ryndam</i> =Rotterdam:	
Poel & Arnold.....	35,000
SEPT. 26.—By the <i>Patria</i> =Lisbon:	
General Rubber Co.....	45,000
SEPT. 27.—By the <i>Caronia</i> =Liverpool:	
General Rubber Co.....	80,000
George A. Alden & Co.....	18,000
98,000	
SEPT. 27.—By the <i>Oceanic</i> =Liverpool:	
A. W. Brunn.....	22,500
Wallace L. Gough.....	20,000
General Rubber Co.....	14,000
George A. Alden & Co.....	11,000
67,500	
SEPT. 29.—By the <i>Botavia</i> =Hamburg:	
A. T. Morse & Co.....	46,000
General Rubber Co.....	13,500
George A. Alden & Co.....	4,500
Poel & Arnold.....	4,000
68,000	
SEPT. 30.—By the <i>Lucania</i> =Liverpool:	
General Rubber Co.....	90,000
George A. Alden & Co.....	15,000
105,000	
OCT. 2.—By the <i>Vaderland</i> =Antwerp:	
George A. Alden & Co.....	102,000

AFRICANS—Continued.

General Rubber Co.....	
Poel & Arnold.....	50,000
Joseph Cantor.....	46,000
Joseph Cantor.....	47,000
Robinson & Tallman.....	22,000
Rubber Trading Co.....	17,000
284,000	
OCT. 3.—By the <i>Victorian</i> =Liverpool:	
Wallace L. Gough.....	29,000
General Rubber Co.....	30,000
Poel & Arnold.....	14,000
73,000	
OCT. 4.—By the <i>Maestric</i> =Liverpool:	
George A. Alden & Co.....	9,000
Rubber Trading Co.....	9,000
Poel & Arnold.....	3,000
21,000	
OCT. 5.—By the <i>Pennsylvania</i> =Hamburg:	
General Rubber Co.....	33,500
George A. Alden & Co.....	11,500
45,000	
OCT. 7.—By the <i>Cedric</i> =Liverpool:	
George A. Alden & Co.....	22,500
A. T. Morse & Co.....	15,500
Poel & Arnold.....	11,300
A. W. Brunn.....	4,000
53,500	
OCT. 9.—By the <i>Etruria</i> =Liverpool:	
General Rubber Co.....	56,000
George A. Alden & Co.....	11,000
67,000	
OCT. 9.—By the <i>La Bretagne</i> =Havre:	
Rubber Trading Co.....	9,000
H. A. Gould Co.....	3,500
12,500	
OCT. 10.—By the <i>Celtic</i> =Liverpool:	
Wallace L. Gough.....	15,500
OCT. 10.—By the <i>Bismarck</i> =Hamburg:	
Poel & Arnold.....	32,000
A. T. Morse & Co.....	16,000
General Rubber Co.....	10,000
George A. Alden & Co.....	4,000
62,000	
OCT. 12.—By the <i>Bahia</i> =Liverpool:	
A. T. Morse & Co.....	29,000
Poel & Arnold.....	16,000
Robert Crooks & Co.....	13,500
58,500	
OCT. 14.—By the <i>Campania</i> =Liverpool:	
General Rubber Co.....	10,000
OCT. 18.—By the <i>Georgie</i> =Liverpool:	
A. T. Morse & Co.....	38,000
Poel & Arnold.....	22,000
Wallace L. Gough.....	15,000
A. W. Brunn.....	12,000
82,000	
OCT. 19.—By the <i>Rhein</i> =Bremen:	
General Rubber Co.....	27,000
OCT. 19.—By the <i>Teutonic</i> =Liverpool:	
George A. Alden & Co.....	11,500
Poel & Arnold.....	5,500
Henry A. Gould Co.....	5,000
A. T. Morse & Co.....	2,000
24,000	
OCT. 20.—By the <i>Patricia</i> =Hamburg:	
George A. Alden & Co.....	33,000
Poel & Arnold.....	37,000
70,000	
OCT. 21.—By the <i>La Touraine</i> =Havre:	
General Rubber Co.....	28,500
OCT. 23.—By the <i>Umbria</i> =Liverpool:	
Poel & Arnold.....	9,000
George A. Alden & Co.....	6,500
15,500	
OCT. 23.—By the <i>Celtic</i> =Liverpool:	
A. T. Morse & Co.....	13,500
Wallace L. Gough.....	5,000
Joseph Cantor.....	2,500
21,000	
EAST INDIAN.	
SEPT. 25.—By the <i>Indramayo</i> =Singapore:	
Robert Brans & Co.....	22,500
Pierre T. Betts.....	20,000
A. T. Morse & Co.....	10,000
Winter & Smille.....	5,000
57,500	
SEPT. 29.—By the <i>Batavia</i> =Hamburg:	
General Rubber Co.....	5,500
OCT. 2.—By the <i>New York</i> =London:	
Wallace L. Gough.....	6,500
Rubber Trading Co.....	4,500
George A. Alden & Co.....	7,500
18,500	
OCT. 5.—By the <i>African Prince</i> =Singapore:	
Poel & Arnold.....	22,500
F. B. Vandergrift & Co.....	5,500
28,000	
OCT. 7.—By the <i>St. Louis</i> =London:	
Poel & Arnold.....	22,500
OCT. 11.—By the <i>Clan McMillan</i> =Calcutta:	
J. H. Recknagel & Son.....	2,600
Poel & Arnold.....	1,500
George A. Alden & Co.....	1,100
4,600	

EAST INDIAN.—Continued.

OCT. 17.—By the <i>Messaba</i> =London:			
George A. Alden & Co.	2,000		
Wallace L. Gough	2,000	4,000	
OCT. 17.—By the <i>St. Hugo</i> =Singapore:			
Pierre T. Betts	20,000		
George A. Alden & Co.	11,000		
Wallace L. Gough	4,000	35,000	
OCT. 20.—By the <i>Patricia</i> =Hamburg:			
A. T. Morse & Co.	2,500		
Robinson & Tallman	2,500	5,000	
OCT. 21.—By the <i>Kennebec</i> =Singapore:			
Pierre T. Betts	13,500		
A. T. Morse & Co.	13,500		
Poel & Arnold	10,000		
Wallace L. Gough	8,000	45,000	
OCT. 23.—By the <i>St. Paul</i> =London:			
Poel & Arnold		4,500	

GUTTA-JELUTONG.

SEPT. 25.—By the <i>Indramayo</i> =Singapore:			
Heabler & Co.	200,000		
George A. Alden & Co.	175,000		
D. A. Shaw & Co.	190,000		
Robert Branss & Co.	85,000		
Robinson & Tallman	100,000		
Pierre T. Betts	35,000		
Wallace L. Gough	35,000	790,000	
OCT. 5.—By the <i>African Prince</i> =Singapore:			
George A. Alden & Co.	100,000		
J. H. Recknagel & Sons	100,000		
Poel & Arnold	55,000	255,000	
OCT. 17.—By the <i>St. Hugo</i> =Singapore:			
Wallace L. Gough	410,000		
J. H. Recknagel & Son	100,000		
Heabler & Co.	50,000		
Pierre T. Betts	11,000	571,000	
OCT. 21.—By the <i>Kennebec</i> =Singapore:			
Heabler & Co.	265,000		
George A. Alden & Co.	155,000		
Pierre T. Betts	150,000		
Poel & Arnold	80,000		

EAST INDIAN.—Continued.

Winter & Smillie	100,000		
Robert T. Branss & Co.	100,000		
Wallace L. Gough	65,000		
Robinson & Tallman	100,000	1,015,000	

GUTTA-PERCHA AND BALATA.

POUNDS.

SEPT. 25.—By the <i>Indramayo</i> =Singapore:			
George A. Alden & Co.	11,000		
SEPT. 29.—By the <i>Botavia</i> =Hamburg:			
To Order	7,000		
OCT. 5.—By the <i>African Prince</i> =Singapore:			
George A. Alden & Co.	25,000		
OCT. 17.—By the <i>St. Hugo</i> =Singapore:			
George A. Alden & Co.	22,500		
Winter & Smillie	2,000	24,500	
OCT. 20.—By the <i>Patricia</i> =Hamburg:			
To Order	20,000		
OCT. 21.—By the <i>Kennebec</i> =Singapore:			
Robert Branss & Co.	15,000		
BALATA.			
SEPT. 28.—By the <i>Grenada</i> =Trinidad:			
Frame & Co.	5,000		
OCT. 2.—By the <i>New York</i> =London:			
Earle Brothers	6,500		
OCT. 4.—By the <i>Majestic</i> =Liverpool:			
Henry A. Gould	4,500		
OCT. 9.—By the <i>Maraval</i> =Trinidad:			
Thebaud Brothers	13,500		
OCT. 10.—By the <i>Potsdam</i> =Rotterdam:			
Earle Brothers	11,000		
OCT. 18.—By the <i>Uller</i> =Demerara:			
Middleton & Co.	5,000		
Charles P. Shilstone	9,000	14,000	
OCT. 20.—By the <i>Patricia</i> =Hamburg:			
A. W. Brunn	2,000		

GUTTA-PERCHA AND BALATA.—Continued.

OCT. 20.—By the <i>Maracas</i> =Cuidad Bolivar:			
A. H. Wappans	15,000		
Frame & Co.	1,500	16,500	

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK SEPTEMBER.

Imports:	POUNDS.	VALUE.
India-rubber	4,791,795	\$2,862,487
Gutta-percha	88,392	18,961
Gutta-jelutong (Pontianak)	2,248,414	74,860
Total	7,131,601	\$3,056,308
Exports:		
India-rubber	128,594	\$111,721
Reclaimed rubber	234,920	25,991
Rubber Scrap Imported	2,431,788	\$146,342

BOSTON ARRIVALS.

POUNDS.

AUG. 1.—By the <i>Arramore</i> =Antwerp:			
Poel & Arnold—African	5,877		
AUG. 4.—By the <i>Sylvania</i> =Liverpool:			
George A. Alden & Co.—African	432		
AUG. 7.—By the <i>Republic</i> =Liverpool:			
F. R. Müller & Co.—African	9,173		
AUG. 9.—By the <i>Buceros</i> =Calcutta:			
George A. Alden & Co.—East Indian	6,456		
AUG. 15.—By the <i>Marionfels</i> =Calcutta:			
George A. Alden & Co.—East Indian	3,363		
AUG. 22.—By the <i>Michigan</i> =Liverpool:			
George A. Alden & Co.—East Indian	437		
Total	25,738		
[Value, \$14,789.]			

OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
August, 1905	2,297,029	217,509	2,079,520
January-July	42,382,481	1,835,143	40,547,338
Eight months, 1905	44,679,510	2,052,652	42,626,858
Eight months, 1904	41,630,173	2,220,818	39,409,355
Eight months, 1903	38,655,119	1,984,816	36,670,303

GREAT BRITAIN.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
August, 1905	4,769,184	2,606,720	2,102,464
January-July	37,519,776	20,445,720	17,074,056
Eight months, 1905	42,288,960	23,112,440	19,176,520
Eight months, 1904	38,298,848	22,141,062	16,157,786
Eight months, 1903	35,090,272	25,428,032	9,662,240

GERMANY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
August, 1905	3,402,080	1,714,020	1,688,060
January-July	26,281,060	8,455,700	17,828,360
Eight months, 1905	29,686,140	10,169,720	19,516,420
Eight months, 1904	23,755,600	6,587,680	17,167,920
Eight months, 1903	23,468,940	7,768,420	15,700,520

ITALY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
August, 1905	205,040	70,400	134,640
January-July	954,360	147,620	806,740
Eight months, 1905	1,159,400	218,020	941,380
Eight months, 1904	1,051,820	75,460	976,360
Eight months, 1903	1,075,800	100,760	975,040

FRANCE.*

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
August, 1905	1,710,720	1,310,760	399,960
January-July	16,462,820	9,477,820	6,985,000
Eight months, 1905	18,173,540	10,788,580	7,384,960
Eight months, 1904	13,976,820	7,431,160	6,545,660
Eight months, 1903	10,738,420	6,118,200	4,620,220

AUSTRIA-HUNGARY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
August, 1905	145,640		145,640
January-July	1,842,940	21,340	1,821,600
Eight months, 1905	1,988,580	21,340	1,967,240
Eight months, 1904	1,931,600	15,180	1,916,420
Eight months, 1903	1,984,400	17,160	1,967,240

BELGIUM †

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
August, 1905	1,593,191	942,598	650,593
January-July	10,172,439	7,314,076	2,858,363
Eight months, 1905	11,765,630	8,256,674	3,508,956
Eight months, 1904	11,699,384	9,727,955	1,971,429
Eight months, 1903	10,470,295	8,134,059	2,335,336

NOTE.—German statistics include Gutta-percha, Balata, old (waste) rubber, and substitutes. British figures include old rubber. French, Austrian, and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

* General Commerce.

† Special Commerce.

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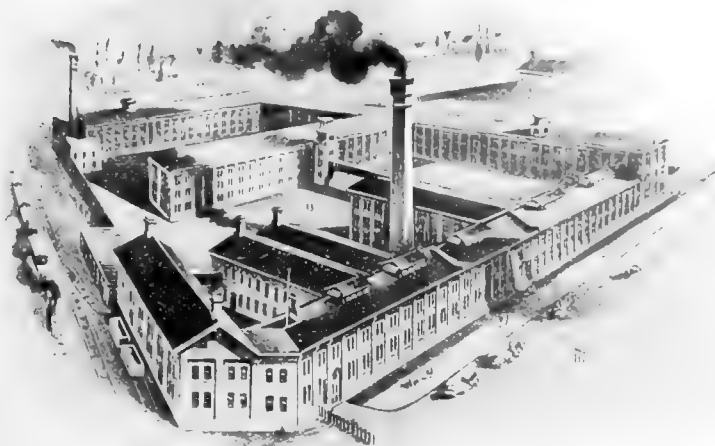
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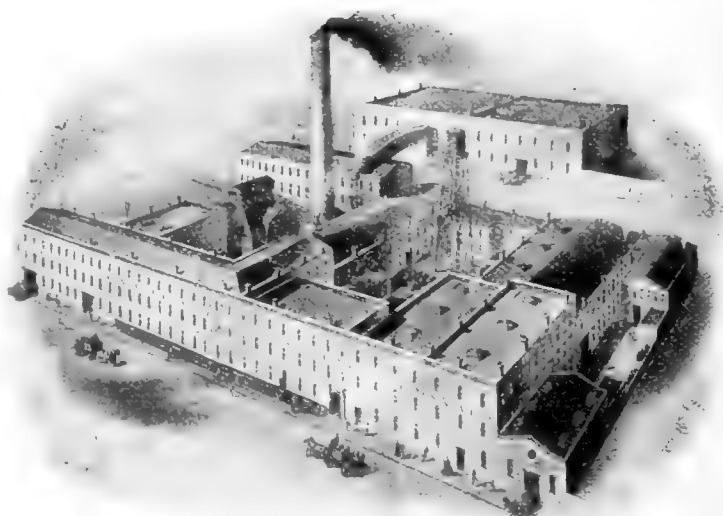
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RUBBER IN MEXICO AND ELSEWHERE.

THE more recent references to rubber cultivation in THE INDIA RUBBER WORLD have been devoted principally to the work in progress in the Far East, for the reason that such work is more advanced there than in any other region, and more definite results have been attained. But with all the advance there, and all the success actual and prospective, the product of the Eastern plantations cannot for years to come form a large percentage of the world's total production of rubber, or lower materially the price level of crude rubber. These results, however, are already of a character to prove beyond doubt the possibility of producing good rubber under cultivation, under conditions which render its production more profitable than any other form of agriculture to-day, while it is asserted by Ceylon planters of long experience that the growing of rubber would be distinctly profitable even at half the prices now obtained. To our minds the experience of the Far Eastern planters thus far should prove most encouraging to those who have engaged in rubber culture elsewhere under proper conditions.

To come nearer home, without doubt the question of rubber planting, in the minds of the American public, has become involved with some doubt, due first to the element of impatience for commercial results from the investments made in Mexico, though the initial attempts there to plant rubber systematically were not made until years after the pioneer work in Ceylon. The beginnings in Mexico, by the way, were quite independent of any work in progress in any other country. They related to a different species from those planted in the Far East, and labor and other conditions were so different that the experience gained in the latter region was not such as to render direct assistance to planters in Mexico. The Mexican enterprises in rubber planting, therefore, have been developed very much as if no rubber had been planted elsewhere.

Mistakes were inevitable, and some of the plantations were bound to result in failure. Moreover, many people doubtless have an incorrect impression of the length of time which has elapsed since the first development of interest in Mexican rubber planting, owing to the amount of talking that has been done. Persons may be heard to speak of plantations as being seven or eight years old which really have not half that time to their credit. Another fact is that a few concerns have been organized on a palpably dishonest basis, and certain others have been managed unfortunately, to the discredit of the whole rubber planting interest. Meanwhile there have been fraudulent gold mining companies organized at the public expense and there have been failures of banks presumably organized on a sound basis. We do not find, however, that good gold mining propositions are less difficult to finance than formerly, or that the public has any less confidence in banks.

We have called attention hitherto to reports which have gained currency through the United States consular service in Mexico, characterizing most unfavorably all rubber enterprises in that country. We have felt it to be

proper to criticize such reports as involving unfairness to many worthy undertakings, and to ask a suspension of judgment until reports could be made as the result of more careful investigation. Some time ago Mr. Cook, of the staff of the department of agriculture, as the result of observations in Mexico, prepared a report, the publication of which as an official bulletin committed the Washington government to the favorable recognition of rubber culture, though it did not fail to point out that the indiscriminate planting of rubber cannot be universally successful—just as it might have pointed out that if every farmer bored for oil on his own premises there might not be a liberal yield of petroleum in every case.

A staff correspondent of the *Mexican Herald* contributed recently to that journal a series of letters purporting to record his observations during a tour of the Mexican rubber belt, in the course of which he found a number of cultivated plantations under American auspices which he regarded as most promising, while in other cases he found less encouraging conditions, and some enterprises he did not deem worth longer keeping up. Reference was made also to a number of Mexican owned plantations on a small scale, which, while not conducted systematically, had given favorable results, some of them for a number of years.

The issue of *Daily Consular and Trade Reports* of November 14 includes an advance publication of portions of the annual report of Mr. Parsons, the United States consul general at Mexico, who had been understood to be making personal observations in the rubber planting belt. While Mr. Parsons is particular throughout to urge caution in making investments of any kind without proper consideration of all the circumstances, we may suggest that this tendency in his report renders the following extracts from it all the more a vindication of the advocates of rubber planting:

SUCCESSFUL CULTIVATION OF RUBBER.—Again, the culture of rubber (*Castilloa elastica*) is already a commercial success to a limited but growing extent, as proved absolutely by my inspection of Mexican plantations owned by natives who are now cropping rubber from cultivated trees. Rubber culture, like sugar culture, is profitable provided soil, climate, and other conditions are favorable, and plantations are managed honestly and well. But rubber growing, too, is now suffering because these conditions have been disregarded, and it will suffer still more when it becomes known how many of the circa 50,000,000 cultivated rubber trees in Mexico can amount to little or nothing because they were planted under unsatisfactory condition.

Our readers have been kept informed of the unfortunate circumstances attending the Ubero planting enterprises, with headquarters in Boston, the effect of which has been in certain quarters to create an unfavorable impression in regard to rubber planting. To those who have studied the matter, however, the Ubero exposé will be seen to have no real bearing upon the present status or the future of honest, practical, rubber planting. It is evident that the squandering at home of money subscribed for a plantation, instead of its actual investment in Mexico, is not proof that trees planted on good soil and cared for properly will not yield rubber at a profit. It may be added, indeed, that the incorporation of new companies for planting rubber in Mexico has continued in the face of the Ubero developments,

and that a very large amount of new planting has been done in Mexico since the bursting of the Ubero bubble.

Following close upon the beginning of an action at law against one of the Ubero promoters, and his incarceration in a Boston prison, we find in the *Traveler* of that city a lengthy interview with a New England man, who is the owner of a private plantation in Mexico and an officer of a large plantation company also with headquarters in Boston, with statements in regard to the results attained on the two plantations, and on a half dozen others in the same Mexican state, in terms capable of verification, and of such a character, if verified, as to prove most encouraging to investors in rubber planting whose money has been judiciously applied. Figures are given in regard to the yields from young planted rubber trees, and in regard to the quality of the product, which indicate that if the trees continue to grow as well as they have done hitherto, the enterprises will not fail in due time to prove so profitable that as a result we may see before many years such a "boom" as is now in progress in respect of rubber in the British colonies.

COLOMBIAN RUBBER.

THIS is such a large world that the average man, devoting his major energies to providing for himself and his own, may be pardoned for a lack of familiarity with all the many lands which lie beyond his particular national domain. One of the least known countries—to the average man—is the South American republic of Colombia. Though two and a half times as large as the German empire, Colombia, by reason of its newness and the sparseness of its population and as yet undeveloped wealth, remains a practically unknown country to all except the more immediate neighbors of this aspiring republic. But Colombia deserves our consideration, if for no other reason, on account of its rubber resources, which are excelled perhaps only in the vastly larger expanse of Brazil.

There was a time, indeed, when the United States of America derived more rubber from Colombia than from the regions of the mighty Amazon, and at a time when Colombia was exporting rubber to Europe as well. The source of supplies then under contribution was speedily depleted, however, and other rubber fields were found more accessible than the Colombian interior, which has never yet been thoroughly explored. But to-day the world's need for rubber is so pressing that regions hitherto unknown or temporarily forgotten are bound to be considered, and it may be that in this era of automobiles and the manifold industries in which rubber is indispensable, the key may be forthcoming which will unlock to the outside world a reserve of wealth in Colombia which has not been realized even by the most sanguine of her own people.

The area which supplied the large shipments of rubber from that country a half century ago is small as compared with the whole republic. Besides, there is a possibility that the regions yet unexplored commercially there possess an infinitely richer supply of rubber than that which was so ruthlessly tapped in the earlier days of rubber exploita-

tion Then the *Hevea* species—the “Pará” rubber tree—was not drawn upon at all, and yet this tree has been found to exist in Colombia over an area measured not by acres or hectares, but by degrees of latitude

How soon the *Hevea* rubber resources of the country may be rendered of service to the world depends upon the degree of intelligence with which the government may deal with the question of encouraging their exploitation. But at least the government has placed no obstacles in the way of cultivation in the districts long ago denuded of the natural growths of *Castilloa*—and perhaps *Sapium*—and from details printed elsewhere in this Journal, it appears that planting of these species, here and there on a comparatively small scale, has been in progress long enough to demonstrate that, if there were no other field open for rubber planting, Colombia has the capacity in time to produce, under cultivation, enough to supply the world's demands for this invaluable material.

THE AUTOMOBILE ERA.

THE Olympia automobile show in London, in the month just closed, attracted an unprecedented amount of attention in the British metropolis for an occurrence of this sort, just as the Paris Automobile Salon this month is likely to do in France, despite the many notable exhibitions of the kind in the latter country. Similarly the exhibitions of the same character scheduled for the leading American cities within the next two months may be expected to prove a greater popular attraction than anything in the same line in the past. Already all the available spaces in the New York and Chicago show buildings have been preëmpted, and many would be exhibitors will be without an opportunity to show their products. And the week limit adopted in each of the cities will be too brief by far to permit all who would attend to have an opportunity to see the marvelously interesting exhibits.

The public interest in the new means of transportation is no mere passing curiosity, such as attracted crowds to see the first elephant ever exhibited in London. The automobile shows are intended to be, and are recognized by their patrons as being, means for the education of the public in the details of a new and great utility of universal and lasting importance. When the luxurious ox carts in which royalty in the middle ages was conveyed through the streets of Paris were supplanted by even more luxurious coaches drawn by horses, at a faster gait, the transition was so gradual as not to appeal greatly at any time to the public interest. Stephenson's perfection of the locomotive, far reaching in importance as was his invention, was slow in coming into universal appreciation, because railways could not be constructed quickly over long distances. And even now, with the hundreds of thousands of miles of railways on the globe, most living men have never seen a locomotive.

But the automobile is an even more spectacular object than the locomotive, and it runs where it will, without the aid of a steel roadway. And its development has been so rapid that even most children now alive antedate it in

years. In India, across the Sahara, in South American regions where the locomotive is yet a stranger, automobiles have been seen and more will be seen before any other means of locomotion faster than horse drawn vehicles will ever appear. Not as freaks or mere curiosities, but as vehicles having manifold practical advantages—not temporarily, but through so much of the future that nobody now living can foresee their end by the substitution of something even more practical.

The coming New York automobile show is only the sixth; twelve years ago the word “automobile” was unknown; twelve years hence doubtless a horse drawn vehicle on New York streets will not be seen except in the way of a “fad”, driven by some wealthy man of leisure determined to possess a novelty, at whatever cost. For the horseless vehicle is destined to prevail, not only for purposes of pleasure, but in the shape of commercial wagons, in which shape, as THE INDIA RUBBER WORLD for some time has contended, the world's greatest use of the motor car is bound to be demonstrated.

Time was when the manufacturer of rubber goods had no special reason to be interested in any form of the world's progress beyond the fact that rubber—in which comparatively few people had any interest—could be made of use for a few purposes. Nowadays, the leaders of the rubber industry must take account of progress in many directions—in transportation, for example, as now being revolutionized by the use of vehicles for which rubber is indispensable. And we may refer to a news item on another page, reporting a requirement by the United States government of more air brake hose in railways, not to mention the increasing use of rubber for this purpose in many other countries. And this is only the beginning of a catalogue of modern uses of rubber, yet in their infancy, which open new opportunities for the rubber manufacturer, and for the scientific cultivator of rubber as well.

WHERE IS THE “RUBBER TRUST” nowadays? If the daily papers remain quiet about the old octopus much longer, the people are in danger of forgetting that it exists.

ADVANCE IN LEATHER BELTING.

THE nineteenth annual convention of the Leather Belting Manufacturers' Association was held in New York November 16. The meeting was well attended and 7 additional firms of manufacturers were admitted to membership. The question of an advance in the price of leather belting having been thoroughly discussed, it was decided to make an advance of 10 per cent. over prices prevailing hitherto—this advance to be effected by changing the discount and to take place at once, but without any change in the price list, which has been in force since 1901. Edward P. Alexander of Philadelphia was reëlected president and George H. Blake, No. 28 Ferry street, New York, secretary and treasurer. F. H. Croul of Detroit, Michigan, was elected vice president. —The United States consul general at Frankfort o/M., Germany, reports a meeting of leather belt manufacturers of the Rhineland and Westphalia, at which it was resolved to issue a circular announcing an increase in the price of leather belting due to the meat famine throughout Germany and the resulting decrease in slaughtering.

THE QUALITY OF PLANTATION RUBBER.

ON his return from a visit to Europe to his post as public "rubber expert" in the Federated Malay States, Mr. P. J. Burgess, in an interview reproduced in these pages last month, said that he did not know that Plantation rubber had yet acquired a "reputation." True, it is coming forward in increasing quantities, which are quickly taken up by consumers at prices much higher than are paid for the best Pará. But then the Plantation product is so much cleaner as to justify Mr. Burgess, perhaps, in asserting that the prices "are really in favor of the Brazilian rubber pound for pound of real rubber." That the new rubber possesses intrinsic value is nowhere doubted; just how it will compare ultimately with other rubbers that have longer been in use, however, and for what purposes manufacturers will prefer the new rubber, remain to be more fully tested in practice. THE INDIA RUBBER WORLD has at hand several expressions from the trade bearing upon this subject which may possess some interest.

* * *

IN the first place comes a letter from the managing director of one of the first rubber factories in Great Britain to experiment with Ceylon rubber. He writes:

"We have only as yet used plantation rubber experimentally and sparingly. Until it arrives in greater quantities it is too dear for the general trade, since the solution makers *can afford* to pay 2 pence a pound more for it than ordinary mechanical manufacturers. When it arrives in excess of the solution requirements, the prices will rectify themselves.

"We don't make solution for the trade, but merely for our own requirements. The quantity from any one estate is yet too trivial to be worth much attention, and as yet the London auction sales offer the best choice for the buyer and best price for the seller.

"The qualities vary even from the same estate, according to the age of the trees, whilst yet so young. We judge that the rubber has not attained its full strength till the tree is at least 8 or 9 years old; younger than that, though good gum, it has not the strength of hard cure Madeira fine Pará, and is uneven in strength. There is no difference noticeable in the rubber from 8 year old trees from different plantations. We have used about 4 to 5 tons in testing it, from about 20 plantations. As yet it is not safe to use for the finest work, such as India-rubber thread and the best bladders, but where a 'weak Pará' will do it is all right."

* * *

A MEMBER of the British rubber trade, though not at present a manufacturer, to whom the preceding lines were shown, offers this suggestion:

"It is true that an absolutely fair test of plantation rubber in comparison with Brazilian Pará rubber has not yet been possible, owing to the fact that the Ceylon and Straits products so far have been marketed in such small lots—though the aggregate may have been important—and varying so in quality and condition that the manufacturer seeking to use these sorts has been unable to obtain either an important quantity at one time or an assured supply of a given quality for regular consumption. These things will right themselves, however, with the increasing production of the plantations and the better care in the preparation of the rubber. But there is something for the manufacturer to do as well as for the planter, in arriving at the best possible results from the new class of rubbers. For instance, the manufacturer here quoted is of the opinion that the Ceylon rubber is not safe to use in making rubber thread. But the nature of his tests is not indicated. The fact that this rubber has

not given good results for thread under the established practice in his factory is by no means conclusive. Possibly with a variation from his practice, for instance in regard to vulcanization, a thread equally as good as any other in market might be produced. The whole industry will recall the variations from any former practice which were rendered necessary after the introduction of Africans before satisfactory results were obtained, but now the consumption of Africans has become very large, and for many purposes with as good results as from the best Pará sorts. In fact, there are uses for which some of the Africans are preferable to Pará rubber."

* * *

A FIRM of London rubber brokers write to THE INDIA RUBBER WORLD as follows in regard to plantation rubber from the Far East:

"At present the quantities have not been sufficiently large to be taken generally by manufacturers, and it has yet to be ascertained for what purposes these new plantation rubbers are most suited, and how results compare with ordinary fine Pará. There is no doubt that for some special purposes the pancake and sheet rubber both from Ceylon and the Malay States have been found very suitable, and the very convenient form of preparation, but it will have to come in much larger quantities before it can establish its proper place in competition with fine Pará and be generally used by manufacturers who must have regular supplies. Up to now we have found very few consumers to look with favor upon the washed and *crepe* rubber, and they nearly all say they prefer the biscuits or sheets, and will do the washing themselves. The *crepe* and washed is liable to heat *en route*, which is against it."

THE ELECTRICAL TRADE IN GERMANY.

THE report of Deutsche Kabelwerke Actiengesellschaft (Berlin; works at Rummelsburg; founded in 1896 and having 2,000,000 marks capital) for the last business year shows larger earnings than in the preceding year, permitting the distribution of 5 per cent. in dividends against 3 per cent. in 1904. The report states: "This is caused by the larger cable demand as well as by the changed market conditions. On account of the increasing tendency for municipal ownership many of the electrical works have passed from the hands of the electrical contracting companies to city control, and the market for cable supplies has become more open. This affords better chances of obtaining large orders which heretofore fell into the hands of the *concessionaire* without competition. The manufacturers of specialties are also benefitted by the increasing number of electric plants erected by cities and municipalities. The prices were only slightly in advance over those of the former year. Competition remained very keen and raw material prices very high. The management hope to even up on this by perfecting the facilities for working up the raw material. The participants in the company are: The Union Cable Co., Limited (London) and the Cyklon Maschinen-Fabrik (Berlin). The first one gave satisfactory earnings and business is increasing. The Cyklon company, making the well known Cyclonet, has not made its annual report as yet, but, judging from the great activity of their business, a good result is expected. The present turnover and orders now in hand are 50 per cent. more than last year."

A PROMISING plantation of *Hevea* rubber has been started at Koolau, on the Island of Maui, Sandwich Islands, 236 acres having already been planted. The moving spirits in the matter are Mr. Hugh Howell, county surveyor of the island named, and certain sugar planters.

EXPERIENCES IN COLOMBIA—RUBBER PROSPECTS.

By the Editor of "The India Rubber World."

IT had been my fortune a number of times to observe the picturesque coast of Colombia from the sea, on both the Atlantic and Pacific sides, but up to the time that the good ship *Sarnia* landed me at Savanilla I had never set foot on its sacred soil. It was, therefore, with much interest that I stood on deck and watched the approach of the vessel to the 300-foot iron pier that is about all there is of the "Port of Colombia." There was, to be sure, a cluster of huts about the little railway station; huts that seemed to grow up out of the desolate shore much as the cactus and mesquite did, without any human intervention, but the result rather of a dry, creative impulse of some arid desert god.

We had been shouldered and buffeted for several days by the restless Caribbean, scorched by the sun and wilted by the heat, and we were glad of the prospect of getting ashore. We, therefore, entered in spirit into the feelings of our captain, who was racing with a French steamer for a good mooring, and whose Teutonic oaths we piously echoed without knowing exactly what they meant. Whether this helped in the race is a question, but at all events we got the berth, and as we were making fast the captain joined our group, his good nature restored, and as we stood under the awning, sheltered from a shower not much bigger than a pocket handkerchief, he called attention to a man standing on the pier who was General Somebody, and a personage of great importance.

"You mean the chap in the macintosh?" asked an English shipmate.

"No, the man in the rubber goat," growled the captain.

Both of them stood pat and the argument lasted long after we left them and stepped upon the pier.

It was crowded with freight cars, natives, sailors, and the nondescript Anglo-Saxons that become residents of such places and never get either money or energy enough to get away. Did I say that it was Sunday when we landed?

Well, by the calendar it certainly was the holy Sabbath, but so far as we could see, no one observed it but ourselves, which we did by rigidly abstaining from work and preparing to journey up to Barranquilla early Monday morning. This town, which is some 19 miles away, is connected with the port by a jerk

water railroad that has great difficulty in negotiating two trips in 24 hours. We therefore made all preparations, and as I was the only one who knew how to ask for three tickets in Spanish, I was elected treasurer, and full of confidence approached the ticket office with the demand, "*Tres botia Barranquilla.*" After much conversation and considerable sign language, I discovered that single fare was \$88, round trip being \$74; so I bought round trips, thus saving \$42. The price seemed a little high, but it gave us an added respect for a corporation that could secure such prices.

Taking our places in the passenger coach, which was about 15 feet long, with exceedingly narrow sides, we were bestowed as comfortably as might be. We three were the only *Americanos*, and the Col-

ombians, particularly those with the store teeth, which seemed to be quite a fad, smiled at us benignly. We were unable to sit together, and to one fell the luck of being seated by the side of an exceedingly dark complexioned lady with much adipose tissue, who shook with the motion of the train so that we feared her calico

swathings would give way and she would run all over the floor; while between her and our companion sat a perfectly naked boy about six years old. I have forgotten how the rest of us were bestowed, I was so interested in watching the disgusted look on the face of the crowded one.

When the train was loaded and everything ready, we had the usual South American wait of about a half hour, and then finally, after much protesting on the part of the fussy little engine, the train dragged slowly along the wharf, around by the station, and following the shore took its way through most uninteresting country until we reached Barranquilla. This proved to be quite a city, Spanish-American throughout, and unspoiled by the tourists. Around the station were two score of rickety carriages, to which were attached, by rusty and nondescript harnesses, a collection of horses, cadaverous and dispirited in the extreme. Two of them succeeded, however, in getting us and our luggage to the Hotel Anglais, run by an English woman, where we secured a room. It contained four beds, a passage way between them, a washstand, and a broad balcony



VIEW OF BARRANQUILLA.



HOMES OF THE POOR.

overlooking the street. The heat was really terrific and the sandy streets of the town shot it up into the rooms until it seemed almost unbearable. Our stout companion by this time had a splitting headache, so we put him to bed and began to take care of him. I secured for him a cup of tea, part of which he drank. Another got him a glass of lemonade, which seemed to do him more good than the tea, and then for the moment he felt so much better that we got a waiter to bring him up a light meal, after which, discovering that the hotel afforded ice cream, he had a plate of that. Then he began to feel ill again; in fact quite sick at the stomach; indeed I think he would have refunded all he had eaten had I not shown him the bill, which is repeated in the mar-

Tea.....	\$10.	gin. Thrifty
Lemonade.....	8.	New Eng-
Food.....	50.	lander that
Ice cream.....	15.	

Total..... \$83 he was, he subdued nature and in a swelter of perspiration announced his intention of keeping what he had paid so high for.

Our British hostess did not have any time to spend upon us, and as English was an unknown language in the town, we were doubly fortunate in making the acquaintance of Julius Cæsar Visbal, a coffee colored, barefooted urchin brought up in Jamaica, who spoke English fluently and melodiously. His presence so cheered the sick one that he suddenly became convalescent, lost his headache, got up and joined us while we did the town. Julius was indeed a treasure. He explained everything to us briefly and quaintly, and incidentally gathered at his heels one-half of the population of the town, who cared not a whit for us but who wanted to hear him talk English.

That night we dined in the main dining hall, but my appetite was spoiled by a sign on the wall which read as indicated herewith:

Ice cream.....	\$ 15.
Sliced ham.....	45.
Ox tongue.....	100.

After dinner we walked around in the cool of the evening, bought some Aztec pottery warranted to be genuine, and later retired to our room. It was then that we began to appreciate

the deadly stillness of the tropics. The dog fight that started in the hallway opposite our room ended in the room, as the combatants fell against the door and burst in. This, mingled with the evening song of several cats, the katydid chorus, and the constant whistling of the police patrol, soon lulled us to sleep; that is, accurately speaking, it lulled one of us, who, when he once lost himself, had the whole tropical chorus beaten

to a standstill. As an originator of strange gasps, groans, sobs, and strangling snorts, he outclassed anything that we had ever heard before, and while we did not sleep, we lay and listened, filled with awe as in the presence of the emperor of all snorers.

In the morning, desirous of showing our appreciation of what Julius had done for us, we asked him to name his own reward, and he decided that he would like a pair of shoes. We therefore purchased for him for \$30 a pair of stout leather shoes, and for \$15 more a pair of stockings. Then loath to part with him we gave him money to purchase a ticket to ride down to Savanilla with us and see us off. This he did in the thriftiest sort of fashion by buying a third class ticket, round trip, for \$10, and entering our first class car and calmly putting himself under our protection and ignoring the expostulations of the outraged conductor. We found incidentally that the fact that

Julius went away with us caused a wave of indignation to run throughout the town, as they believed we had practically abducted him. A British friend also who had remained aboard the steamer, was very much surprised to see the treatment that we accorded Julius and asked an explanation of it, in reply to which the Manufacturer said, jocosely:

"Him and me is partners."

"I am sure you are, from your grammar," replied the Briton, with a sarcastic emphasis that was delightful.

We had dinner on the boat and after dinner I rendered an account of my stewardship, which the figures show:

Railroad tickets ..	\$ 22.	Tip ..	\$ 5.	Ticket, Julius...	\$ 10.
Carriage ..	80.	Miscellaneous.	150.	Total.	\$136
Three lemonades ..	24.	Hotel.....	845.		

All this money for 24 hours of doubtful pleasure. I have forgotten whether I remarked that \$1 of Uncle Sam's money was readily taken by the Colombians for \$100 of their own.

The reason for the great depreciation in Colombian currency is said to be that 25 years ago Colombia coined both gold and silver which circulated at par, but the law

allowed all debts to be paid in silver, which was the cheaper, and in a very short time gold went out of use and became a subject for speculation rather than a circulating medium.

We got away at 11 o'clock that night and on the following morning were out of sight of land, continuing so all day. As there were no ladies aboard, and as it was exceedingly hot, we lived in pajamas and came nearer to being comfortable than we



MOUTH OF THE SINU RIVER.



PANORAMIC VIEW OF CARTAGENA.

had any time for a week. It was told us incidentally during the day by one of the officers that the report had gone abroad in Barranquilla that the president of the United States had been assassinated—a report circulated probably by some one who was feeling sore about Panama. The matter furnished a day's excitement, until the arrival of the next steamer confirmed its untruthfulness. We knew that nothing of the kind had happened, however, so were not worried by the report.

The following morning found us at the entrance of the harbor

at Cartagena. We entered by the old Spanish forts, passing groves of palms, coming into a beautiful stretch of harbor where fronting us lay the old walled city, built close to the water's edge, with a background of tree clad heights, a sight picturesque and beautiful, a wonderful contrast to the Colombian towns we had just left. Making fast to the pier, the steamer was at once surrounded by dugouts, in which natives with monkeys, parrots, coral, etc., tried to tempt money from the reluctant pockets of the passengers. Getting ashore we

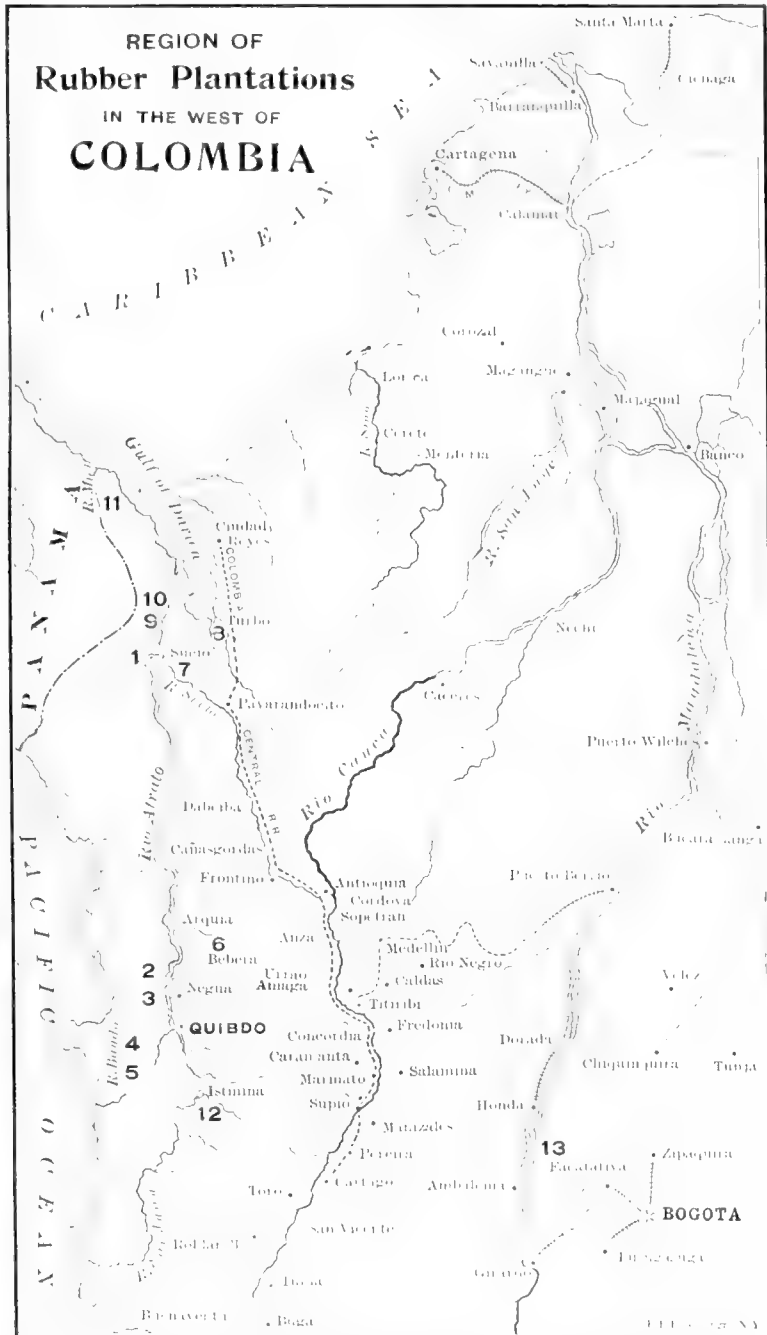
took a short railroad ride to the middle of the city and breakfasted at the Hotel Americano. Even here there were few Anglo-Saxons. Indeed one of the storekeepers to whom we had letters of introduction said at that time there were only 7 Americans, 4 Englishmen, and 3 Germans in the city. The old city was fascinating in the extreme and we spent every moment that we could spare in viewing the walls, the cathedral, the fortifications, and the public buildings. We also went up against a native manufacturer of Panama hats and each bought several of them. Incidentally, of course, we looked for rubber, but found that there was very little in town. Indeed few knew anything about rubber any way, either wild or cultivated. A young Philadelphian who went down with us reported that on his company's concession, which covered some 200 square miles, the natives had cut down nearly all the rubber trees, and that that sort of work had followed throughout the whole of their district.

It was a very fortunate accident that at this juncture brought me in touch with Mr. Henry G. Granger, United States consular agent at Quibdo, Colombia, and it is due to his instant good will that the following record is here appended.

Quibdo, by the way, on the river Atrato, in western Colombia, is a town of some commercial importance in that region, as well as a political center, being the residence of the prefect of one of the provinces. The term "the Chocó" mentioned by Mr. Granger is a legacy from former days, when a province existed by that name, derived from an ancient Indian race called the Chocos. The region referred to now, however, forms a portion of the present department of Cauca. Mr. Granger's information follows:

"Thirty years ago the production of wild rubber in the Chocó amounted to several million pounds per year. The trees were cut down and bled to the branches. As the wild *Castilloa* here runs a free latex, it is gathered in kerosene cans or holes in the ground and is brought to market in solid cakes. Owing to the destruction of the trees, the output steadily fell off and the cakes became adulterated by earth and non elastic saps mixed in to make weight until the business became pretty well discredited, and relatively non important. Then attention began to be called to small balls of rolled strips, *chaza* (pronounced 'chassa') which were brought in by Indians and occasional negroes, which were taken from cultivated trees by cutting the bark with *machetes* at intervals of a few inches as far as a man could reach. The cultivated trees are called 'borroso' as they give a thick latex which runs but a short distance down the trunk and is gathered when dry by tearing off the strips and rolling them into balls or packing in boxes in which case they dry in the form of the receptacle.

"Practically all traveling in the Chocó is done by



FIGURES IN THE MAP RELATE TO THE LOCATION OF RUBBER PLANTATIONS (MENTIONED ON ANOTHER PAGE) BELONGING TO THE FOLLOWING

- | | |
|--------------------------|------------------------------|
| 1. JUAN C. OLIVER | 8. LOUIS GONZALES. |
| 2. CICERON ANGEL. | 9. ABUCHAR HERMANOS. |
| 3. CARLOS NICOLAS FERRER | 10. RENÉ GRANGER. |
| 4. GONZALO ZUNIGA | 11. LOUIS M. SANTAMARIA. |
| 5. MELUK & CO. | 12. FRANCISCO DE B. CARASCO. |
| 6. DELFINO DIAZ. | 13. "LE BARRIGONA"—DE LA |
| 7. MANUEL RIOS. | TORRE BROTHERS. |



SCENE IN QUIBDO, A RUBBER TRADING CENTER.

water, and soon canoes began to arrive bringing only 'chaza,' as this class of rubber, in view of the superior price it brought in the foreign markets, was paid for at much higher rates than the ordinary cakes. This stimulated the negroes and about nine or ten years ago they began to plant rubber, until to-day of the estimated population of 80,000 negroes in the Chocó, he is the exception who has not, if not bearing, at least a few dozen trees planted. And some of them have as high as 4000 trees in a plantation.

"Now, in the rubber shipped from Chocó the cake is the exception and *chaza* the rule.

"The products of the Chocó are shipped by the steamer *Condor* and a number of dory shaped schooners to Cartagena on the Atlantic coast, and by dugouts to Buenaventura on the Pacific. The only two vessels which have kept a record of their classified freight for the past year are the steamer *Condor* and the schooner



LUMBER AND WILD RUBBER CAMP.



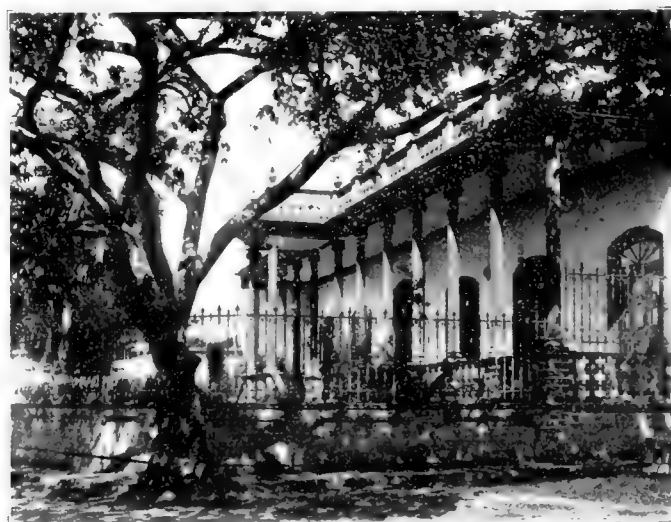
COLOMBIAN SCENERY.

Tulia. Inquiry from their owners resulted in the statement that they carried during this period 71 and 80 tons of rubber respectively. As there are a number of other schooners which run to Quibdo and are known to bring rubber, it is entirely reasonable to place their entire total at that of the *Tulia*, or a general total to the port of Cartagena of 231 tons per year. Señor Luis Durier of the firm of Zuniga & Diaz, at present manager of their Cartagena house, who has had extended experience in the province of San Juan, says that unquestionably this region shops as much as the Atrato. But if it shipped far less we would still have a product of over a ton a day, the great majority of which is *chaza*, or the product of standing cultivated trees.

"It is an accepted fact that in five, or even four years if well cared for, a rubber tree in the Chocó will give a total annual product, of various cuttings or tapplings, of a pound of *chaza*, and that if care is taken not to injure the tree, this amount will annually in-



MEDELLIN STREET SCENE.



MEDELLIN—HOME OF A WEALTHY CITIZEN.

crease. The commerce of the Chocó is in the hands of the white race, who live in the principal towns. Many have gone into rubber planting, and some esteem their plantations more than their merchandizing. Among the principal ones are:

Juan C. Olier, Rio Sucio, Atrato, Colombia.

Ciceron Angel, Quibdo, Atrato, Colombia.

Carlos Nicolas Ferrer, Quibdo, Atrato, Colombia.

Gonzalo Zuniga, Quibdo, Atrato, Colombia.

Meluk & Co., Quibdo, Atrato, Colombia.

Delfino Diaz, Quibdo, Atrato, Colombia.

Manuel Rios, Rio Sucio, Atrato, Colombia.

Luis Gonzales, Turbo, Atrato, Colombia.

Abuchar Hermanos, Sautata, Atrato, Colombia.

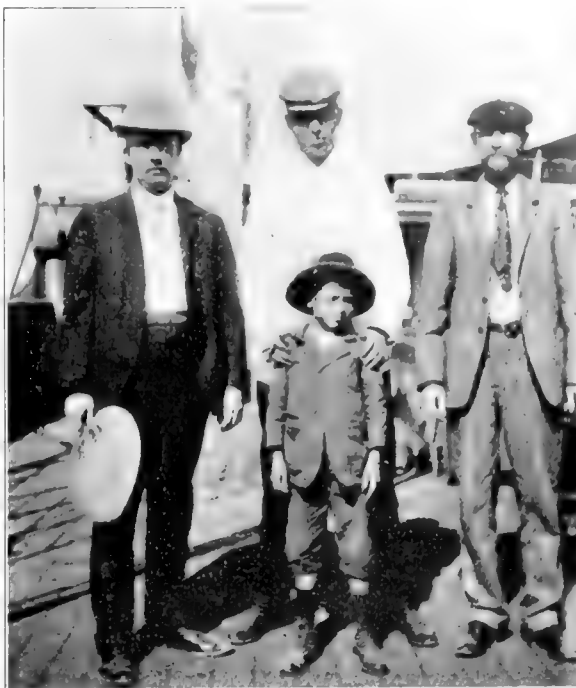
René Granger, manager, Yanko mba, Atrato, Colombia.

Luis M. Santamara, manager, La Carolina, Uraba, Colombia.

Francisco de B. Carrasco, Istmina Choco, San Juan, Colombia.

—not to mention the hundreds of small plantations of much larger aggregate than the above, whose planting will amount to probably about 300,000 trees; all of *Castilloa* except at La Carolina, which is trying *Manihot Glaziovii* with

seeds brought from Don Simon de la Torres's ranch 'La Barigona' on the upper Magdalena, which in turn brought seeds from Ceylon.



THE EDITOR (ON THE RIGHT) AND HIS COMPANIONS DU VOYAGE
[The Boy is Julius Cesar.]

"It is found that rubber to thrive in the Chocó must be planted in the sun, and the accepted distance apart is 4 to 5 meters. The construction of the Colombia Central railroad from the gulf of Uraba (Darien) to the interior will open up a lot of rubber land in addition to the areas already accessible. Banana raising, quartz mining, and gold dredging are industries of great promise here, but none of them will surpass the rubber planting business if the present enthusiasm continues, and judging from the outlook it will."

Incidentally other details have come to my notice regarding the interest in rubber planting that is being developed in Colombia, and which will be put in shape for my readers in the near future. This interest really is larger than I had had reason to appreciate, and is likely to become very important. Important concessions for exploiting crude rubber are also about to be developed.



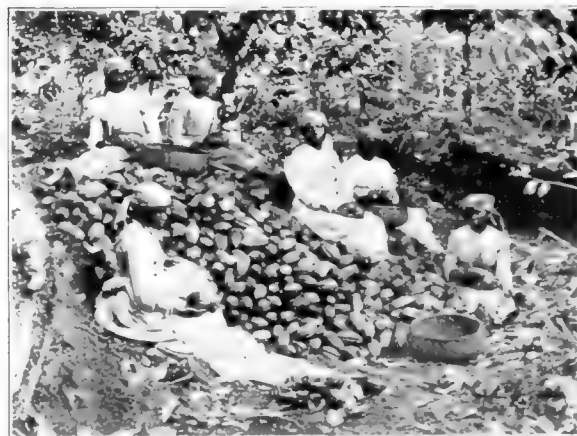
BANANAS



SUGAR CANE



LUMBER.



CACAO.

TYPICAL INDUSTRIES OF COLOMBIA.

RUBBER INTERESTS IN EUROPE.

GALALITH IN RUSSIA.

A CONCESSION has been obtained by G. J. Bierich, of Riga, to form a company, Aktiengesellschaft der Baltischen Fabriken von Galalith- und Hornfabrikation, with a capital of 500,000 rubles [= \$257,500], to establish works in the Livland district for producing compounds of Galalith, horn, and other materials, and to make goods from these. The company will work under arrangements with the Internationale Galalith-Gesellschaft Hoff & Co. (Harburg a/d Elbe, Germany).

MR. TIPPET RETIRES FROM THE LIVERPOOL.

AFTER serving for nearly 21 years as chairman and managing director of The Liverpool Rubber Co., Limited, Mr. Henry Grendon Tippet has retired, to enjoy what his many friends trust will prove a long holiday, which will be devoted to the pleasures of country life at Ross, in Herefordshire. During Mr. Tippet's administration the Liverpool company has enjoyed an era of prosperity which testifies to his capacity and devotion to its interests. As chairman and later a director of the India-Rubber Manufacturers' Association he has exerted himself likewise in the general interest of the rubber industry. Mr. Tippet remains a member of the board of the Liverpool company; his successor in the chairmanship is Mr. Max Muspratt, an active and capable young man of 34, a son of Mr. E. K. Muspratt, J. P., chairman of the British Insulated and Helsby Cables, Limited, of Prescott.

GERMANY.

THE Deutsche Gummischuh-Vertriebs-Gesellschaft G. m. b. H. (German Rubber Shoe Distributing Co., Limited), of Berlin, which has the exclusive sale of the "Harburg-Wien" and "Calmon" rubber shoes, announces that it was not affected by the fire at the Harburg works, in so far as the warehouses containing the stock for the entire season were wholly saved. The company therefore is in no way impeded in making deliveries.

=Sächsisch-Böhmische Gummiwaren-Fabrik Actiengesellschaft, formerly having factories at Dresden Lobtau and at Bünauburg (Bohemia), but recently operating only the latter, has been merged with Frankfurter Gummiwaren-Fabrik Carl Stöckicht Actiengesellschaft, formed last year to acquire the works before carried on by Stöckicht as a private concern at

Frankfort o/M. The Bünauburg works will continue to be operated, thus giving the Stöckicht company two factories—one each in Germany and Austria.

=Pahl'sche Gummi-und Asbest-Gesellschaft m. b. H., at Düsseldorf-Rath, have increased their capital to 850,000 marks [= \$202,300], in accordance with a resolution dated August 11, 1905.

GREAT BRITAIN.

W. T. HENLEY'S Telegraph Works Co., Limited, announce the issue of £150,000 at 4½ per cent. first mortgage debenture stock, of which £41,798 is allotted for the retirement of existing debentures and the remaining £108,022 offered for public subscription. The company are building an additional factory at Gravesend, and the new issue is intended principally to meet the expenditure upon the new works.

=The eleventh International Shoe and Leather Fair, held during the first week of November in London, included some notable exhibits of rubber boots and shoes, together with rubber soles for sporting and other shoes, and particularly a great variety of rubber heel pads.

VEREINIGTE GUMMIWAREN-FABRIKEN HARBURG-WIEN.

THE gross profits of the goods account for the business year ending June 30 last amounted to M 3,040,445.96 [= \$723,626.14], against M 2,729,948.29 of the preceding year, and M 3,374,100.67 in the year 1902-03. The net profit for the last business year amounted to M 850,522.84 [= \$202,424.44] against M 830,301.45 last year, and was disposed of as follows:

Net profit for this year.....	M 850,522.84
Dividend 5 per cent. on the entire capital.....	300,000.00
	M 550,522.84
Less 10 per cent. Commission to the Directors....	55,052.28
	M 495,470.56
Add Balance from profits of 1903-04.....	181,478.36
	M 676,948.92
Dividend 7½ per cent. on the entire capital.....	450,000.00
	M 226,948.92
Less Officers' Pension Funds.....	50,000.00
	M 176,948.92
Balance to 1905-06.....	M 176,948.92

The capital of the company remains at M 6,000,000 [= \$1,428,000], and the reserves at the former large figures.



AFTER THE FIRE (OCTOBER 7)—VEREINIGTE GUMMIWAREN-FABRIKEN HARBURG-WIEN.

[See THE INDIA RUBBER WORLD, November 1, 1905—page 55.]

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

THE beginning of November sees rubber manufacturers busy preparing their samples and quotations in response to the tenders sent out by the Admiralty. This year things are on a somewhat different footing from the past. Not only is there a new chief chemist at the head of the Admiralty laboratory, but the strong representation made a year or so ago by manufacturers as to the nature of the tests employed has led to a decided alteration. The new specification for A quality is, I think, of sufficient interest to give in full:

ADMIRALTY
CONTRACTS.

The India rubber is to be made of pure Caoutchouc of the quality specified below, with no other ingredients than sulphur and white oxide of zinc. The sulphur is not to exceed 3 per cent. and the oxide of zinc is not to exceed 40 per cent., reckoned on the manufactured rubber. It is to be of a homogeneous character throughout and is to be thoroughly compressed free from air holes, pores, and all other imperfections; it must contain no crumb rubber, recovered rubber, or other treated or waste rubber, or rubber substitute of any kind. It must endure a dry heat of 270° F. for 2 hours without impairing its quality. The quality of the Caoutchouc used must be of such a character that after it has been made up into the vulcanized and finished article, as defined above, not more than 10 parts per cent. of organic matter and sulphur calculated on the non-mineral matter present can be extracted from the rubber by boiling it for 6 hours in a finely ground condition with a 6 per cent. solution of alcoholic caustic potash.

The alteration from the old specification consists in the substitution of the moist heat test 4 hours at 320° F. by the alcoholic potash test as a means of detecting the presence of substitute or highly resinous rubbers. In addition the words "Para rubber" vanishes and "pure Caoutchouc" appears instead. The new test requires careful reading: I don't say that it is ambiguous, but that its tenor is not at once apparent to the business man in a hurry is a matter of fact which has come prominently under my own observation.

Now that the question of honesty does not arise in sending rubber which is not fine Pará, there is plenty of scope for manufacturers to exercise their skill in producing a compound which will stand the tests and not be prohibitive in price. It is an open secret that the bulk of the contracts placed in the past have been for rubber which did not consist entirely of pure Pará and rejections were assignable more to excess of sulphur than to failure in other respects. The new test may be taken as an indication that the chemical examination throughout will be of a more severe character than under the old regime, though as long as it does not go beyond what is laid down in the specification the manufacturers have no legitimate cause for grumbling. There is a point which has arisen, however, under the new regime which certainly discloses an unsatisfactory state of affairs. In a certain class of goods the manufacturers have largely ignored the old specification and supplied a rubber mixing which their own experience has shown to be much more suitable. This has been done for years and as the price quoted has been much lower than if the specification had been adhered to the country has been a gainer. Now, however, the manufacturers are to supply a rubber, under pain of rejection, which is quite unsuitable for the purpose and which must necessarily be more costly. Evidently we have here another case where a conference of manufacturers with the non-technical authorities seems not only desirable but absolutely necessary if this particular portion of the country's business is to be carried on on sen-

sible lines. As the case stands at present a manufacturer who sends a sample of what he has been supplying for years will have it rejected on analysis and if he sends what the Admiralty specify for he knows that the goods will not prove satisfactory under the conditions of use, and this of course may easily cause him discredit in trade circles as a maker of unsatisfactory goods. There has been I may say some considerable rejection of admiralty rubber since the new chemist took office but I do not propose to go into details. It ought to be pointed out that the present dry heat test of two hours is an alteration of the old one which was only one hour at 270° F. With regard to this test it is important that buyer and seller should use precisely the same method of testing, otherwise discrepancies in results are certain.

I AM informed that Mr. Samuel Whitehead, who has been for some years works manager at the Leyland and Birmingham Rubber Co., Limited, at Leyland, has entered into an arrangement with the Wood-Milne Co. to manufacture their heel pads, for which a factory is now in course of erection at Leyland. So far from showing any diminution in popular favor, I have it on good authority that the turnover of the Wood Milne Co. the last twelve months shows an increase of 40 per cent. over the previous period. Up to now the company has had its goods manufactured by some of the principal rubber works, and the effect of the new departure will of course mean a loss of a large amount of business to certain rubber firms.

ON October 30 the rubber machinery at Messrs. Gotliffe's proofing works at Hyde, near Manchester, was sold piecemeal by auction as a sufficient bid had not been received for it as a whole. The firm are continuing in the waterproofing business at their premises in Ancoats, Manchester, but will in future buy their proofed cloth from the large rubber manufacturers and save themselves from the worries incidental to the manufacture *ab initio*. The trade generally is looking up, orders and enquiries in this branch being quite numerous compared with a year ago.—On October 31 and succeeding days a sale was held at the works of the Hyde Rubber Works, Limited, of the stock-in-trade, comprising raw and batched rubber, reclaimed rubber, chemicals, and fittings. The premises, as already mentioned, have been acquired by Messrs. Mandleberg & Co., for the habitat of the new Unity Rubber Co. Discord rather than unity has been associated with the works during past years, but the new company has all the elements of success about it. In addition to the above mentioned goods, there was a quantity of manufactured rubber including cycle and motor tires, matting, and heel pads. The conditions of sale had a clause referring to manufactured patent registered or proprietary articles which, it was stated, were sold on the condition that they were only used as scrap rubber. With regard to heel pads, for which there was animated bidding, the auctioneer was closely questioned as to this condition of sale and was evidently in doubt as to whether "this country" as a place of sale included Ireland and Scotland. Judging by the prices paid I should hardly imagine the heel pads sold will be used only as scrap. There was no machinery on sale, this having evidently been taken over by the new company. Those who were of an inquisitive mind with regard to this found the workroom doors with notices

NEW
WORKS.AUCTION
SALES.

appended stating that entry was forbidden and drawing attention to the dog, which certainly could be heard within.

It was with deep regret that I heard of the recent death of Mr. John Cooper, the managing director of the Dermatine Co.,

THE LATE
MR. JOHN COOPER.

Limited, of Camberwell, London, and I am sure that this feeling will be shared by all those who had business or social relations with him. It was not until 1888 that Mr. Cooper, who was born at Kirkintilloch, left the neighborhood of Glasgow, where he was engaged in journalistic and other work, to come south, and his work at the Dermatine Co. is a good instance of what energy and enthusiasm can accomplish where previous training has not been in the technical branch. Mr. Cooper used to say that he was really no loss to the papers for which he wrote musical criticisms, and it certainly seems that he found a sphere in which his undoubted capabilities of organization and of attracting custom could be utilized to greater advantage. The present position of the Dermatine Co. compared with what it was when he joined bears convincing testimony to the work accomplished. As a member of the committee of the India-Rubber Manufacturers' Association, Mr. Cooper was a regular attendant at the Manchester meetings. Although he had paid many business visits to the Continent, Mr. Cooper had not found time to visit America, though he has often told the writer that he looked forward to doing so. Mr. R. F. H. Webb, who has been for some years a director of the Dermatine Co., will now act as managing director, while Mr. C. R. C. Hart, who has had considerable experience of the business, has been appointed general manager. Under these auspices the company should continue to flourish, though it is inevitable that Mr. Cooper's loss will make itself felt.

FROM all accounts the motor show at Olympia to be held from November 17 to 25 promises to be the biggest thing of its kind that London has seen. As

MOTOR
TIRES.

I write I hear that our Editor will be among the visitors and will doubtless take on himself the additional duty of

reporter.—According to a paragraph which has appeared in the daily papers Mr. Clifford Hallé has invented a spring wheel for motor cars to obviate the use of rubber tires. It is stated to have satisfactorily undergone severe tests and to have proved its capacity of withstanding side strain and of allowing the axle always to remain in the center of the wheel while bearing its share of the load. Paragraphs of this sort are occasionally inspired and so far I do not find much enthusiasm among motorists concerning it. The sort of thing it is said, has been tried before but nothing has come up to rubber for smoothness of running. —Messrs. Iddon Brothers, rubber machinists of Leyland, are busy making the wheels for the Hartwich Tyre Syndicate. This tire is especially for motor wagons and consists essentially of rubber blocks 8 inches long and 5 inches thick let into the circumference of a steel wheel; these are placed at a slight distance apart on the wheel projecting to a small extent. I understand that in a recent test of 1000 miles with a 10 ton load the face of the rubber was worn down less than $\frac{1}{8}$ of an inch. It may be urged against this form of tire that it requires a specially made wheel, but against that it is certainly economical and

should have a good chance of competing with the pneumatic tires generally used on motor buses.—I see that some adventurous gentleman has got a permit from the Porte to drive his motor car through Turkey. From my slight acquaintance with the roads of the country and from what I have been told I imagine that his tires will have a rough time of it. Of course there may be some good main roads, but the country roads of which I recently had experience were simply stony tracks along which a horse and carriage could only proceed at a walking pace.

THE question of railways in Ceylon has an important bearing upon the distribution of labor, both Cingalese and what is obtained from the mainland, and this of course in connection with the new rubber industry as well as with the older tea planting. Sir Henry Blake, the governor of the island, who is now in England, is discussing the matter of light railways with various authorities. The matter is not sufficiently close to the interests of this to warrant further reference. With regard, however, to the labor question generally, I am informed that the difficulties and troubles which have

been experienced are largely due to the middlemen who engage the men and then get them in their debt by certain procedure. Another source of trouble is that the labor is intermittent. Where as on the lands of the Consolidated Tea Co. the hands are found work all the year round at road making for instance, at times they are not wanted on the plantation, I understand that labor is readily obtainable. What is wanted it appears is the abolition of the middleman and not too close a haggling over rates of payment, and there will be no longer any labor question. Mr. Julius Hoffman presiding at a recent meeting of the Rubber Plantations, Limited, referred to this matter and thought that those companies who were first in the field would be the best off as it was reasonable to suppose that there would be a deficiency. His other remarks were not particularly germane to the subject of this paragraph, but I may perhaps be excused for a brief notice of



THE LATE MR. JOHN COOPER.

them. Overproduction of rubber he said is a myth, as at the present rate of demand, especially for motor bus tires in seven or eight years there would be shortage of supply of 40,000 tons per annum. Moreover, the cultivated rubber could be profitably sold at 8 or 9 pence per pound. Of course a good deal depends upon the output of wild rubber, but naturally remarks such as the above are causing excitement amongst speculators and have caused the recent promotion in London to go off well. One thing seems certain, the published accounts of the profits derivable from the Ceylon plantations show that there is no need for close economy in the price of labor, though naturally in the years of waiting there will be a tendency in all directions to keep down the scale of expenditures.

THE accounts of this small Manchester concern allowing for the payment of a 5 per cent. dividend with nearly £1000 forward must be considered satisfactory, especially as the opinion was freely expressed that the untimely death of Mr. Harry Heaton a year or two ago spelled impending ruin.

THE GORTON
RUBBER CO.

A GERMAN CONGRESS DISCUSSES RUBBER CULTURE.

AT the second German Colonial Congress (Berlin, October 4-8) a considerable part of the program was devoted to the consideration of topics connected with Caoutchouc and the world's supplies of this important commodity. In section V—"The Agricultural Condition of the Colonies and Transmarine Possessions"—almost the entire first session was devoted to the Caoutchouc question. The two speakers were Professor Dr. Otto Warburg, member of the Kolonial-Wirtschaftlichen Komitees, a well known Colonial technologist, and one of the foremost authorities on the *Ficus* species, and Herr Louis Hoff, director of the Vereinigte Gummwaren-Fabriken Harburg-Wien, and President of the Zentral-vereins Deutscher Kautschukwaren-Fabrikanten (Central Union of German Rubber Goods Manufacturers). The formal addresses delivered by these gentlemen were followed by discussions in which much interest was evinced. In the absence of copies of the two papers THE INDIA RUBBER WORLD is pleased to acknowledge its indebtedness to a summary of them, with comments, by Dr. Soskin, in *Gummi-Zeitung*.

* * *

DR. WARBURG expressed great confidence in the future of rubber culture in the German colonies—in Kamerun, New Guinea, and Samoa, particularly in regions having a copious rainfall, and also in German East Africa. All of these he thought would be able to report an important development in rubber culture within a very few years. Already more than 1,000,000 rubber trees have been planted in the German colonies, nearly half of them in New Guinea and one quarter in Kamerun and German East Africa. Samoa, also, in consequence of the recently formed Samoa-Kautschuk Compagnie, is preparing to cultivate rubber extensively.

In New Guinea *Ficus elastica* and *Hevea Brasiliensis* have already given excellent results, tappings of old *Ficus elastica* yielding $2\frac{1}{2}$ kilograms per tree valued at 7.50 marks per kilo. *Manihot Glaziovii* (the rubber of Ceará) has given satisfactory results in East Africa, eight year old trees yielding 100 grams [=about $3\frac{1}{4}$ ounces] of a quality saleable at 6 to 7 marks per kilo. This tree promises to be of great importance for East Africa on account of its easy cultivation and early productiveness. Kamerun possesses a valuable native rubber tree in the *Kickxia (Funtumia) elastica*. Recent experimental tappings of five year old trees under cultivation gave promising results as to quantity, and the product showed under analysis 87.2 per cent of Caoutchouc of fine quality.

A "rush" such as prevails in Ceylon and the Malay States, where an enormous amount of capital has been invested in rubber culture, does not exist in the German colonies and is not desirable. "But," said the speaker, "the plantation companies who devote themselves early to this culture will be well repaid, even if they should be unable to divide a 60 per cent. dividend, like some of the English plantations."

Dr. Warburg felt that great changes would be necessary in Caoutchouc plantation methods in the near future—in connection with the manner of tapping rubber, for instance. The crude tapping practice of the present will have to be replaced by more practical methods. As in the case of the cinchona plantations, every particle of Caoutchouc contained in the bark should be obtained, though the speaker did not indicate definitely by what methods such desirable results might be reached further than mentioning the removal of sections of bark from

some species, as is done with oak trees for tanning purposes, or by the pulling up of young plants in a system of annual field culture. Dr. Warburg mentioned that from *Castilloa elastica* plants not yet a year old from 6 to 8 per cent. of Caoutchouc had been extracted. Sufficient data is lacking, however, to establish a satisfactory theory as to whether either of these methods would prove practicable, though under Dr. Warburg's direction experiments are being made bearing upon these points.

Dr. Warburg made a very interesting statement in regard to a new Caoutchouc yielding plant—a species of mistletoe discovered in Venezuela,* containing in the dried fruit from 12 to 24 per cent. of a good, easily extracted Caoutchouc. This is from a botanical standpoint of great interest, because hitherto no fruits containing Caoutchouc in any important quantity have been known. It is of agricultural interest as well, since the Venezuelan plant may prove susceptible to cultivation, particularly on plantations which have been abandoned as unprofitable, or on shade trees or hedges. The plant is said to fruit abundantly at the age of one to four years. The speaker had induced the Kolonial-Wirtschaftliche Komitee to send a specialist to Venezuela for studying the mistletoe culture, with a view to adapting it to the German colonies.

The question of the eventual overproduction of rubber was next touched on by the speaker, as a matter of practical interest in connection with engaging in this culture. He quoted figures to show that at present some 60,000 hectares [=148,260 acres] were devoted to rubber plantations, of which 16,000 are in Ceylon, 15,000 in the Malay States, and 4000 in Mexico. Should the yield be only 1000 marks per hectare (at present a net profit of twice this sum is calculated on plantations of *Hevea*), within a few years a harvest would be valued at 60,000,000 marks [= \$14,280,000]. Or if we figure the annual yield per hectare at an average of 200 to 250 kilograms of rubber, the 60,000 hectares would yield 12,000 to 15,000 tons of Caoutchouc, equal to about 20 per cent. of the world's total present production. It must be considered, however, that the production of wild rubber will decrease rather than increase, especially if prices should decline. At the same time, a fall in prices would lead to increase in consumption. Therefore, the overproduction of Caoutchouc is not to be feared for a long time to come.

* * *

THE well known director of the Harburg-Vienna company, Mr. Hoff, gave a discourse which gained special attention because, on account of his practical knowledge as a manufacturer, he represented the view of the Caoutchouc industry. He pointed out that the practical applications of rubber dated back only about 60 years, to the epoch making discovery of vulcanization by the American, Goodyear. In Germany rubber goods have been manufactured for 50 years, the Harburg works, founded in 1855, being one of the first in Germany. To-day there are in the empire 90 rubber goods factories, employing a capital of at least 100,000,000 marks [= \$23,800,000], and no less than 30,000 workers.

Such is the important position held by rubber in the various industries that many of them would be practically impossible without rubber. The machinery, brewing, chemical, and sugar industries employ rubber in many forms—packing, belting,

* See "Die Kautschukmispeln", by Dr. Warburg, in *Der Tropenpflanzer* (Berlin), November, 1904, p. 373-374.

valves, and the like. The railways, in the use of rubber in air brakes, have reduced danger in travel to a minimum. The electrical industry (insulating tape, insulating tubes, hard rubber sheets, etc.), and the bicycle and automobile industries are indebted to rubber for their development and perfection. The surgical use of rubber was also referred to. Mr. Hoff pointed to these various uses as the cause of the continually increasing demand for crude rubber with which the former increase in production could not keep pace. The objective of all interested should be to devise ways and means to further the production of raw Caoutchouc in order to meet the world's increasing wants. Mr. Hoff quoted figures to show the increase in the consumption and in the production of rubber during the past five years, indicating a very material decline in the world's visible supply, all of which accounted for the rise in the price of crude rubber.

The speaker then touched on the manner of exploiting the raw material in the producing countries, and supported the proposition that "the endeavors of all interested should first be directed to the creation of laws by which the piratical exploitation of Caoutchouc could be checked, and further to advance the cultivation of Caoutchouc plantations and to furnish the necessary capital therefor." While in the resulting discussion various opinions were expressed in regard to regulating the exploitation of wild rubber, Mr. Hoff's position in regard to systematic culture in order to keep abreast of the increasing demand for raw material was commended, and had much weight from the fact that the manufacturers have a thorough knowledge of the necessity of assisting in the obtaining of this supply. Dr. Soskin comments: "This is as far as I know the first open acknowledgment by them of the urgent necessity of assisting the cultivation of rubber plantations financially as well as by sharing in plantation management."

Mr. Hoff recommends a police system for the protection of the Caoutchouc forests in the German colonies similar to that employed by the bureau of forestry. He cited the example shown in this respect by the Congo Free State. To defray the expenses of protection he recommended a tariff on the export of rubber from the German colonies.

He next referred to the lack of interest shown heretofore in Germany in rubber culture, at a time when the endeavors of the Americans in Mexico, the Belgians on the Congo, the English in the Far East, and the Dutch in Java had led to such promising results. The hesitancy of German capital in this respect he said was due to the number of years required for rubber plantations to become remunerative, and the further fact that considerable capital has been invested in other colonial undertakings which have not always proved satisfactory. The question of delay, however, he did not regard as so serious when *Hevea Brasiliensis* has been found to yield in Ceylon and Malacca as early as six years, while *Kickxia* in Kamerun and *Manihot* in East Africa had given even earlier results.

Mr. Hoff exhibited some specimens of the leading rubbers of commerce, which proved very interesting to his audience. There was a piece of fine Upriver Pará, the most valuable ordinary sort, worth on that date 12.50 marks per kilo; a piece of upper Congo obtained by the careful tapping of trees and vines and losing but 5 per cent. in washing, and worth 9 marks per kilo; a piece of Djuma obtained by piratical exploitation, containing much wood, earth, etc., losing about 30 per cent. in washing, and worth only 5 marks; and lastly, a piece of Ceylon plantation rubber (*Hevea*), showing how choice a product could be obtained by intelligent cultivation. Such rubber suffered a loss in washing of only 2 per cent., and was worth say 15 marks per kilo.

The speaker urged participation in rubber planting undertakings. Hesitation, he said, meant a serious loss to the national capital in the colonies, and every ton of rubber obtained in their own colonies was a material gain to the empire in enhancing its independence of other countries. He solicited earnest support for the Kolonial-Wirtschaftlichen Komitees, which has endeavored to further rubber culture in colonial Germany and is now preparing to send a Caoutchouc and Gutta-percha expedition to New Guinea. He touched upon the importance of granting valid titles to colonial lands for planting purposes as a further incentive to capitalists to interest themselves in rubber culture. He regretted that this culture had not started in the German colonies 20 years ago, in which event rubber prices might not be so high to-day, and certain recent failures of rubber factories might have been averted.

In the ensuing discussion further proofs were offered of the profits to be expected from rubber planting. Attacks were made, however, on the newly organized Samoa-Kautschuk Compagnie, which was accused of giving rise to too high expectations of profits. In the absence of a representative of the company, Dr. Warburg arose in its defense. He said it was surprising with what energy and intelligence this company had begun operations, in securing 400,000 young plants of *Hevea Brasiliensis* in Wardian cases and 700,000 seeds in various packings, for shipment from Ceylon and Malacca to the new plantation.

* * *

In section I—"Geography, Ethnology, and Natural History"—Professor Dr. Volkens gave a "Synopsis of the most Important Caoutchouc Sorts of Commerce, and of the Plants Yielding Them." Like Mr. Hoff he pointed to the ever increasing demand for Caoutchouc, with which the production did not keep pace. The production in the Amazon states had become stationary during the past few years, and in some countries a deficit is to be recorded. He mentioned an important Congo trading company which during the year had furnished only one-half its former exports. He contended that the exploitation of native rubber forests would not suffice and that only systematic culture could avert an ultimate rubber famine, following which he mentioned the rapid increase in area of rubber plantations in Ceylon and elsewhere, but proportionately the planting to date in the German colonies had been unimportant.

Dr. Volkens, passing to the individual sorts, discussed the Pará rubber and the tree yielding it, showing that that tree is susceptible of being cultivated over a very much wider area than was formerly supposed. Mentioning Ceará rubber (*Manihot*) he said 250,000 trees had been planted in German East Africa. *Castilloa elastica* had failed under cultivation in some countries, but New Guinea, where 270,000 trees of this species are now growing, has shown better results. New Guinea has also 250,000 *Ficus elastica* under cultivation. Similarly the speaker referred to the other yielding rubber sorts, concluding with a reference to the Guayule rubber of Mexico, which only recently has appeared in the European market. The plant yielding it, *Parthenium argentatum*, he said, is of special interest from the fact that its Caoutchouc contained therein is not found in the latex, but in the cellular tissue.

HIGH PRICE FOR RUBBER.—The *Times of Malay* reports that at an auction sale at Singapore on July 26, \$4.10 (silver) per pound was paid for "Pará sheets" from Plang estate, owned by Edwin Philips, of Sungei Siput, Perak, Federated Malay States. This price was equivalent, at the exchange rate then current, to about 6s. 11¼d. [= \$1.68¾] in London. The rubber was reported to be of good color and free from mold.

NEW GOODS AND SPECIALTIES IN RUBBER.

"RE-NU" VACUUM PRESERVING JARS.

GRAY STAUNTON (Evanston, Illinois) has had patented an improvement in sealing preserving jars, an application of which is illustrated in the accompanying drawing. The invention relates primarily to jars or other vessels for hermetically sealing and preserving fruits or other foodstuffs, beverages, and so on, and has for its object the

providing of simple and efficient means whereby the cover may be held on by atmospheric pressure and readily released without injuring the cap, so that the vessel may be refilled and used an indefinite number of times, thus adapting the invention for household as well as other purposes. The illustration relates to a jar the upper end of which is formed with a flange upon which rests a cap so shaped as to form a tight connection. Around the edge of the cap is a rubber gasket, indicated in the drawing. The center of the cap is formed with a small vent, closed by means of a rubber valve. In the use of such preserving vessel a vacuum or partial vacuum within the same may be cre-

ated by bringing the contents to a boiling temperature, which will cause the outside atmospheric pressure to tightly close the rubber valve in the cap; or the air at the top of the vessel may be exhausted by means of a simple pump. In the latter event the invention may be used for preserving materials without cooking or any other employment of heat in connection with the canning process. Under the atmospheric pressure, after the vacuum is formed, the flattening of the rubber gasket serves more completely to seal the jar. This invention is adapted to the use of any other material than glass for jars, and the form is not necessarily such as is indicated in the drawing. The suction pump referred to may be of the simplest construction, such as may be provided for a few cents. Patents have been granted in the United States (No. 793,107), France, Belgium, Italy, Spain, Canada, and Japan, and applications are pending in other countries. [The Vacuum Appliance Manufacturing Co., Postal Telegraph building, Chicago.]

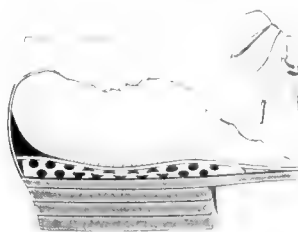
AN AUTOMATIC AIR TIGHT COVER.

THERE have come into wide use in Great Britain in the bottling and preserve provision trades air tight covered glass jars the sealing of which, with patent fittings, is accomplished as follows: The packages referred to are closed by placing an India-rubber ring under a metal lid, which is pressed into place and held down temporarily by a clip. The glass jar, with its contents and lid in position, is then boiled, and the expansion of the contents drives the air out, so that when the package is cold again, a vacuum has been formed under the lid, which is pressed down by the atmosphere, and thus hermetically sealed, after which the clip is re-

moved. At least this has been the practice for some time, but with a view to doing away with the use of India-rubber the Automatic Air Tight Cover, Limited (17, Thavies Inn, Holborn circus, London, E. C.), controllers of the patent referred to, have introduced a new style, figured herewith, in which the rubber ring is replaced by a special composition let into the rim of the tin cover, the composition and the cover being in one piece. This is placed in position on the top of the glass jar and the same procedure followed as when the rubber ring is in use. The new composition is referred to as containing no sulphur or other material likely to act upon the tin, nor does it perish, being unaffected by the boiling process. In opening the jar all that is necessary is to pierce the lid to destroy the vacuum, or to raise it from the side as shown in the illustration. Some of the largest British provision packing firms, including Lipton, Limited, are mentioned as using this system.

FOSTER PNEUMATIC HEEL CUSHION.

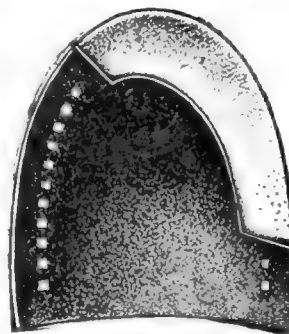
THE article herewith illustrated is designed to be worn inside the shoe, under the heel. It is a springy pneumatic device which slips readily into place and requires no effort to make it remain there. The construction of the rubber is such that it gives a maximum amount of resilience and absorbs all the jar of walking. It is claimed that this cushion not only gives comfort to the wearer, but that it improves the fit of the shoe.



An encouraging sale of this article is reported, and it is supplied in any size desired in shoes for men and women. It is designed to retail at 25 cents per pair. [Foster Rubber Co., No. 370 Atlantic avenue, Boston.]

THE "NO SLIP" HEEL.

A NEW heel illustrated herewith, the invention of Joseph Martin, is referred to as having been designed by a man who has attached many rubber heels at the bench, and has thus become familiar with the merits and demerits of many brands. This is principally a leather heel, the rubber part being indicated by the lighter shaded section of the cut. In form the rubber section suggests the steel plate often applied to leather heels to keep them in shape, but in size it is considerably larger than the ordinary steel plate. The rubber section is flush with the leather heel, and an inner edge of it extends within the heel to further assist in keeping it in position. The rubber is placed where the wear and jar first come. These heels are referred to as being much lighter in weight than the ordinary rubber heel, and their durability is assured by the use of good rubber. [National Heel Co., 127 Duane street, New York.]



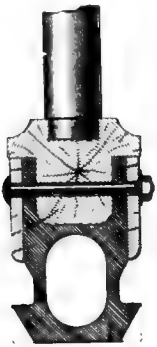
THE "WHITE VULCAN" GOLF BALL.

A NEW rubber cored golf ball, made under the patents of Charles T. Kingzett, is known as the "White Vulcan." A novel feature is that the cover throughout is made of white Gutta-percha. Instead of being white only on the surface, as in the case of the painted golf balls, the material in this case is "all white." The Kingzett balls are made by the use of specially devised machinery, by means of which the rubber used in the core is wound under the highest possible tension. The ball here illustrated is guaranteed against all faults for 54 holes of play. [The Improved Golf Ball Co., Locksley street, Limehouse, E., London.]



BRODERICK'S NON-SLIPPING TIRE.

JOHN K. BRODERICK (St. Louis) has patented a pneumatic tire, one form of which is illustrated herewith. The drawing shows in cross section (1) the air chamber, with a broad flat tread, with (2) rubber flanges extending above the air chamber to fit on either side of (3) a rib of the wooden rim, and to engage (4) two metal flange rings, the whole being held together by (5) bolts passing transversely through the rim. The novel form of tread is designed to prevent side slipping or skidding. The illustration relates to a "single tube" tire, but omits a view of the means for inflation. In a modification of the tire an inner tube is introduced by slitting the air chamber longitudinally along the point of contact with the rim. The method of attaching the tire renders creeping impossible.



DR. TULLAR'S HOSPITAL SYRINGE.

THIS syringe was perfected more especially for physicians and hospital use. The Tullar fountain bag, shown in the illustration, has an opening at the top sufficiently large to insert the hands and thoroughly wash and cleanse the inside; in fact, the bag may be turned inside out and scrubbed, which is often necessary when medications have been used. The large opening also facilitates quick and easy filling from a pitcher or other vessel. The lower portion being pointed causes a very rapid discharge, and also prevents any sediment from collecting or remaining in the bag. The soft rubber strap handle at top permits its suspension from any projection, which adds much to its convenience. The outlet pipe has a full quarter inch bore, insuring a quick flow. When using the new spiral spray irrigator, 3 quarts of water may be discharged in one minute. This new irrigator is easily and comfortably inserted, and owing



to the peculiar form of spiral ribs, it is self holding, and keeps the folds of the vagina dilated, permitting the 30 needle-spray jets from the central tube to reach every part of the passage at once. Thorough cleansing is quite necessary before examinations or operations. The peculiar spiral form of the irrigator ribs, surrounding the central tube of spirally arranged spray jets, causes the fluid to discharge in all directions, which simultaneously comes in contact with the entire dilated surfaces. This is of great advantage when applying hot water or medicated injections. The enema pipes have three outlets arranged obliquely which permits of the pipe end being perfectly smooth and rounded. [The Seamless Rubber Co., New Haven, Connecticut.]

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values of exports of manufactures of India-rubber and Gutta-percha, for the month of September, 1905, and for the first nine months of five calendar years:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
September, 1905....	\$100,505	\$174,083	\$ 211,455	\$ 486,043
January-August....	755,988	770,411	1,915,845	3,442,244
Total.....	\$856,493	\$944,494	\$2,127,300	\$3,928,287
Total, 1904....	647,245	844,802	1,779,256	3,271,303
Total, 1903....	633,744	628,592	1,555,756	3,118,092
Total, 1902....	513,636	718,759	1,467,000	2,699,395
Total, 1901....	447,653	567,307	1,321,115	2,336,165

THE NEW MEXICAN TARIFF LAW.

FOLLOWING the new monetary law of Mexico, effective since May 1 last, by which the gold standard was adopted, fixing as the unit the peso, equivalent to 49.8 cents United States currency, and the resulting lower and more steady rate of foreign exchange, a new customs tariff schedule was promulgated, and this took effect September 1, 1905. The following items comprise the references to rubber manufactures in the new schedule, the rate being specified (1) in pesos per kilogram (legal weight) and (2) the equivalent in United States gold per 100 pounds, the latter figures being supplied by THE INDIA RUBBER WORLD:

CLASSIFICATION.	Mexican Per Kilo.	United States Per 100 Lbs.
Rubber belting [on gross weight].....	\$0 11	\$2.49
Rubber hose.....	.12	2.71
Packing of all kinds.....	.04	.90
Rubber footwear.....	1.00	22.59
Rubber sheets, with or without cloth.....	.10	2.26
Dental rubber.....	3.00	67.77
Rubber erasers.....	.50	11.30
Gutta-percha [evidently including rubber] and celluloid articles, not specially mentioned...	.45	10.17
<i>Elastic webbing:</i>		
Cotton—over 4 centimeters wide ..	.66	14.91
Cotton—not over 4 centimeters.....	1.00	22.59
Wool—over 4 centimeters wide.....	.90	20.33
Wool—not over 4 centimeters ..	1.60	36.14
Silk—over 4 centimeters wide.....	1.50	33.89
Silk—not over 4 centimeters.....	3.50	79.07

By "legal weight" is meant the weight of the goods together with that of their interior packings—wrappers or the like—being enclosed in the outer packing case in which imported. No account is taken of the weight of the outer packing case where such is used. The former provision relating to a free zone 20 kilometers wide along the northern boundary of Mexico, in which imports were subject to only 10 per cent. of the regular duties so long as they remained within the zone, has been abolished.

RECENT RUBBER PATENTS.

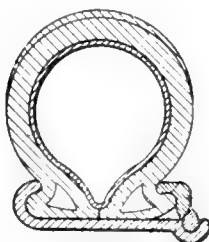
UNITED STATES OF AMERICA.

ISSUED SEPTEMBER 26, 1905.

- N**O. 800,136. Lawn sprinkler. [Sprinkler head.] B. Brown, Long Beach, Calif.
- 800,231. Unloading, storing, and reclaiming apparatus [involving the use of conveyor belts]. L. Moss, New York city, assignor to Robins Conveying Belt Co.
- 800,237. Infant's band or shirt. C. E. Ovenshire, Minneapolis, Minn.
- 800,239. Horseshoe [with elastic spring bar]. G. B. Paul, Clinton, Mo.
- 800,254. Fountain sponge. G. H. Willis, assignor to The N Tire Co., both of Chicago.
- 800,269. Tool for removing and replacing cushion tires. T. P. Corboy, Columbus, Ohio.
- 800,291. Brush [for shaving; with bristles set in rubber handle]. F. Gaul, assignor to Rubber and Celluloid Harness Co., both of Newark, N. J.
- 800,292. Pneumatic carpet renovator. C. Gunderson, Milwaukee, Wis.
- 800,307. Vehicle tire. A. de Laski and P. D. Thropp, Trenton, N. J.
- 800,308. Vehicle tire. A. de Laski, P. D. Thropp, and H. Deck, Trenton, N. J.
- 800,357. Vehicle tire. F. Burnham, Fresno, Calif.
- 800,366. Vehicle tire. C. W. Faitoute, Summit, N. J.
- 800,420. Toy. J. D. Washington, Pittsburgh, Pa.
- 800,467. Elastic bandage. H. Myers, Philadelphia.
- 800,618. Infant's band or shirt. C. E. Ovenshire, Minneapolis, Minn.

ISSUED OCTOBER 3, 1905.

- 800,634. Rubber horseshoe. W. Downs, Toronto, Canada.
- 800,640. Elastic tire for vehicle wheels. H. Gilardoni and H. Le Riche, Paris, France.
- 800,784. Cushioned tire. E. C. Bailey, Cromwell, Conn.
- 800,809. Pneumatic tire guard. T. H. Landley, Cedar Rapids, Iowa.
- 800,835. Vehicle wheel [with rim comprising a tire locking device]. F. A. Seiberling, Akron, Ohio.



800,835.



800,864.

- 800,864. Tire armor. J. C. Moore, New York city.
- 800,883. Damper cord, weather strip, and door cushion. D. Schuyler, Bridgeport, Conn., assignor to The Perfect Sliding Door Co., Los Angeles, Calif.
- 801,019. Fountain syringe [with means of attachment to a stationary faucet]. C. H. Kintner, New York city.
- 801,080. Pen attachment. E. F. Hicks and E. E. Hicks, Whitehall, Ill.
- 801,083. Vehicle wheel [with resilient tire]. J. K. Holtmann, St. Louis.
- 801,115. Antislipping device for tires. W. J. Smith, Canastota, N. Y.
- 801,145. Toy ball. J. F. E. Feltner, Leadville, Colo.
- 801,150. Pneumatic tire. J. A. Murphy and W. S. Manning, Holyoke, assignor to Manning Mfg. Co., Springfield, Mass.

ISSUED OCTOBER 10, 1905.

- 801,209. Pneumatic tire valve. L. K. Buck, Freehold, N. J.
- 801,210. Hose nozzle. W. Burnett, Cambridge, assignor of one half to W. K. Mason, Brookline, Mass.
- 801,228. Hose or pipe coupling. H. Duffin, Auckland, New Zealand.
- 801,263. Wheel [with rubber tire] for roller skates. B. S. Peard, New York city.

- 801,273. Packing ring. S. Schultz, assignor of one-half to C. Bank, both of Schenectady, N. Y.
- 801,359. Pneumatic tire. H. W. C. B. Cave, London, England.
- 801,460. Insect destroyer [having a flexible tube and discharge nozzle]. F. Koechel, New York city.
- 801,556. Truss. J. K. Stockton, New York city.
- 801,610. Method of manufacturing golf balls. E. F. Ross, Newark, N. J., assignor to The Perfect Golf Ball Co., New York city.
- 801,632. Vehicle wheel [with solid rubber tire]. T. Appleton, New York city.
- 801,720. Inflation valve. J. E. Keller, Jr., Litchfield, Conn.
- 801,813. Art of making playing balls. F. H. Richards, Hartford, Conn.

Trade Marks.

- 5,911. Rubber boots. Goodyear Rubber Co., New York. *Essential feature.*—The representation of a man and the stern portion of a boat. The man is shown as wearing hip boots and a fisherman's hat and as pushing the boat from the shore into the water. Upon the stern of the boat are the words LONG SHORE. Projecting from the boat is an oar. In the background are clouds and birds, and upon the horizon appears a sailboat. The whole is inclosed in a circular border, and associated with said representation are the words LONG SHORE.
- 12,235. Waterproofed textile belting. The National Belting Co., Lawrence, Mass. *Essential feature.*—The word TEXTOL.

ISSUED OCTOBER 17, 1905.

- 802,005. Metallic tread for resilient tires. W. C. Lyon, Hyattsville, Md.
- 802,339. Inhaler. A. de Trey, Philadelphia.

Trade Marks.

- 6,378. Rubber boots and shoes. Lambertville Rubber Co., Lambertville, N. J. *Essential feature.*—The word SNAG
- 6,379. Rubber boots and shoes. *Same. Essential feature.*—The word SNAGS.
- 7,473. Elastic pads and cushions for the bottoms of boots and shoes. Fredair Rubber Co., Boston. *Essential feature.*—The word TREDAIR.
- 7,713. Rubber boots and shoes. Lambertville Rubber Co., Lambertville, N. J. *Essential feature.*—The hyphenated word COCK-OF-THE-WALK, associated with the representation of a strutting rooster.

ISSUED OCTOBER 24, 1905.

- 802,389. Tire. [Steel band, with resilient cover of rubber and canvas.] E. Gregg and T. H. Hirst, Birmingham, assignors to W. K. D'Arcy, Stanmore, England.
- 802,462. Hose coupling. C. W. Martin, Dunkirk, N. Y., assignor to Martin Car Heating Co., Chicago.
- 802,484. Moistening device [for envelope flaps and the like]. J. Speir, Harrogate, England.
- 802,564. Spraying apparatus. W. G. Hall, Burdett, N. Y.
- 802,600. Tire. [Pneumatic, with special tread.] D. R. and O. D. Salisbury, Owosso, Mich.
- 802,643. Vehicle wheel [with segmental rubber tire]. C. E. Huxley, Chicago.
- 802,668. Fountain pen. H. Taylor, Waterville, N. Y., assignor to Aikin, Lambert & Co., New York city.
- 802,703. Tire fastener. [For detachable pneumatic tires.] T. Midgley, Columbus, Ohio.
- 802,711. Rubber dam sheeting. [*Claim.*—As a new article of manufacture a composition for the manufacture of scented rubber goods consisting of pure rubber, solid perfumes of uniform chemical constitution finely distributed throughout the entire mass and sulphur from the process of vulcanization and adapted to be rolled out into thin sheetings.] W. F. A. Schrader, Brooklyn, assignor to Traun Rubber Co., College Point, N. Y.
- 802,735. Pneumatic tire protector. [Serrated metallic sheathing] P. O. Casavant, Point St. Charles, Canada.
- 802,746. Elastic tire. A. A. Gilles, Nogent sur-Marne, France.
- 802,806. Wheel tire. [Inflatable and non collapsible.] H. G. Fiske, assignor by mesne assignments to Morton Trust Co., trustee, both of New York city.
- 802,853. Hose coupling. H. Garner and S. T. Davis, Media, Pa.
- 302,902. Elastic tire [“consisting of ground factice more or less closely pressed and inclosed in a hose or hose like covering of India-rubber, leather, woven fabric or similar material”]. W. Alexander, Charlottenburg, and L. Posnansky, Berlin, Germany.

802,905. Tire inflating means [actuated by the motion of the vehicle]. G. A. Bobrick, Los Angeles, Cal.

Trade Mark.

9,990. Fountain pens. L. E. Waterman Co., New York city. *Essential feature.*—The representation of a globe and a fountain pen, in which the pen is shown as passing through the globe.

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1904.

* Denotes Patents for American Inventions.

[ABSTRACTED IN THE OFFICIAL JOURNAL, OCTOBER 4, 1905.]

- 13,052 (1904). Horseshoe pad. J. Bamber, Clayton, Manchester.
- 13,091 (1904). Elastic tire [having a metallic layer with a projecting head fixed on a grooved metal rim by a ring]. W. Strück, Friedenau, near Berlin.
- 13,118 (1904). Machine for making golf balls by winding rubber cord or tape upon the cores of said balls. J. P. Cochrane, Edinburgh, and J. Jackson, Dundee.
- 13,198 (1904). Hose reel. A. W. Clayden, Exeter.
- 13,298 (1904). Pneumatic tire. [For preventing puncture an endless strip of compressed leather is inserted between the air tube and outer cover.] M. G. Plane and G. Phillips, Colchester.
- * 13,411 (1904). Mouth piece of hard rubber for tobacco pipes. C. Elkin, Jersey City, New Jersey.
- 13,445 (1904). Tobacco pouch. A. Frankau & Co. and H. I. Livermore, London.
- * 13,446 (1904). Machine for cementing soles to shoes with rubber. G. L. Rollins, Bridgewater, Massachusetts.
- 13,493 (1904). Pneumatic tire. [Concave sheet steel series arranged to overlap the length of rubber and clamped in position, the whole being then covered with canvas and placed between the air tube and outer cover]. F. Peace, North Woodseats, near Sheffield.
- 13,558 (1904). Heel pad for boots. H. T. Wikins and G. Denton, London.

[ABSTRACTED IN THE OFFICIAL JOURNAL, OCTOBER 11, 1905.]

- 13,660 (1904). Pneumatic tire and means for attaching same to wheel rims. C. W. Pradeau, Shepherds Bush, London.
- 13,646 (1904). Pneumatic tire protector [formed of an old outer cover with the beading cut off and secured to the rim by straps or buckles]. F. D. Lyon, Hove, and G. W. Brown, Brington, both in Sussex.
- 13,687 (1904). Syringe [for the cure of diseases in animals]. A. Hepnar, Kassel, Germany.
- 13,783 (1904). Pneumatic tire [constructed in segments which may be inflated]. A. Hasperg, Baden-Baden, Germany.
- 13,784. Pneumatic tire. [To prevent bursting the outer cover is formed with a groove at each side in which engages the claw-like edge of the rim.] *Same.*
- 13,799 (1904). Pneumatic tire. [Outer cover formed with hard cores and beaded edges fitting into recesses in the sides to prevent creeping.] W. A. Sanky, Sutton, Surrey.
- 13,854 (1904). Rim for pneumatic tires. [Fitted with detachable side flanges to facilitate attachment.] M. Korth, Köln Raderberg, Germany.
- 13,861 (1904). Artificial limbs [constructed with a sheath and pneumatic pad for the reception of the stump]. S. Rosenfelder, Nürnberg, Germany.
- 13,910 (1904). Elastic tire. R. Stone, Wellington, Shropshire.
- 13,929 (1904). Golf balls [with core molded from a composition formed by mixing solutions of India-rubber and Gutta-percha in naphtha; the core is covered with Gutta-percha]. R. Hodgkinsons, Victoria, Australia.
- 13,935 (1904). Tire pump. D. Rowe and J. Stobert, Wanganui, New Zealand.
- * 13,948 (1904). Elastic tire [and means for attaching same to rims; being what is called in the United States the "Hartford Perfected Dunlop" tire.] T. Midgley, Columbus, Ohio.
- 13,964 (1904). Pneumatic tire. [Slipping prevented by placing on the tread a series of metal shoes adapted to receive wooden blocks.] L. S. Dyer, Craven Arms, Shropshire.
- 14,024 (1904). Waterproof coats [with tubular collar through which passes a drawstring to facilitate putting on and a close fit]. A. Dunhill, London.
- 14,041 (1904). Gardening syringe. A. H. Gale, London.

14,097 (1904). Sole and heel for boots. H. Markus, Manchester, and Barnwell Machine Co., Droylsden Rubber Works.

[ABSTRACTED IN THE OFFICIAL JOURNAL, OCTOBER 18, 1905.]

- 14,251 (1904). Pneumatic tire protector [of leather, embracing all that part of the tire uncovered by the rim]. R. M. Meyer, London.
- 14,259 (1904). Elastic tire [composed of metal springs fitting one inside the other]. J. Barker, Oldham, Lancashire.
- 14,284 (1904). Sole and heel protector. H. J. Burb, and J. H. Cox, Greenock, Renfrewshire.
- 14,298 (1904). Elastic tire [formed of cork molded to the form of the rim, to be used with or without a cover of rubber]. H. E. Haynes, Hove, Sussex.
- * 14,429 (1904). Wheel formed of two discs with flanged edges to support the tire. G. W. Sanford, Thomaston, Connecticut.
- 14,459 (1904). Tire repairer. [In repairing inner tubes the patch is held in position by a metal clasp.] V. B. Cashin, London.
- 14,477 (1904). Appliance to aid in walking and running; the joints formed of armored rubber tubes, coated with Pará rubber. C. V. Czerinejewo, Bromberg, West Prussia.
- 14,627 (1904). Trousers clips, consisting in part of elastic bands. H. Grafe, and P. Kaiser, Weimar, Germany.
- * 14,644 (1904). Respirator [for firemen and miners]. A. A. Sherman and C. E. Chapin, Berkeley, California.
- 14,664 (1904). Elastic tire [formed with a number of isolated chambers]. A. Ducasble, Neuilly (Seine), France.
- 14,703 (1904). Sole and heel protector. [Tips for soles and heels of boots consist of different shaped pieces of leather, each having a correspondingly shaped undercut recess adapted to receive a flanged rubber pad.] W. Jayne, Knowle, Bristol.
- 14,740 (1904). Pneumatic tire. [To prevent puncture or slide slipping, armored bands are secured to tires by lashes or ties of Balata, leather, canvas, etc.] W. P. Thompson, London.
- 14,760 (1904). Pneumatic tire. [Slipping and puncture prevented by constructing a tread with blocks of highly compressed canvas and rubber.] L. Johnstone, Prestwich, Lancashire.

THE FRENCH REPUBLIC.

PATENTS ISSUED (WITH DATES OF APPLICATION).

- 353,681 (April 25, 1905). Société anonyme des Établissements Falconnet. Tire.
- 353,655 (April 22). M. Berthe. Rubber stamp.
- 353,887 (May 2). Société française du Caoutchouc artificiel "Elastophor". Elastic tire.
- 353,911 (May 3). Société Michelin & Cie. Metallic rivet or button with hard metal cap, for the outer covering of tires and for anti skidding bands.
- 353,912 (May 3). Société Michelin & Cie. Rivet consisting of a tempered steel head, and shank of untempered steel or iron, made of one piece with the head, for the outer covering of tires and for anti skidding bands.
- 353,756 (April 28). Société Générale de procédés d'extraction du Caoutchouc. Machine for barking roots and lianes.
- 353,754 (April 28). A. Berguerand. New method of putting rubber tips on shoes.
- 353,790 (April 28). G. Aranyi. Pneumatic pad for trusses.
- 353,892 (May 3). Dupont. Band of spongy and elastic tissue, either rubber covered or impervious on one of its surfaces.
- 353,993 (May 5). McConechy. Pneumatic tire.
- 354,049 (May 6). F. & P. de Coninck. Elastic tire.
- 354,051 (May 6). G. A. Ström. Compound pneumatic tire.
- 354,116 (May 8). M. Quidet and E. Noé. Elastic tired wheel.
- 354,175 (May 10). L. M. Robertson. Elastic tired wheel.
- 353,995 (May 5). W. H. Story. Process for the manufacture of a celluloid substitute from horn, ebonite, and the like.
- 354,242 (May 12). C. Rossel. Cover for elastic tires.
- 354,262 (May 13). J. Tennant. Pneumatic tire.
- 354,277 (May 13). L. Johnstone. Elastic tire.
- 354,363 (April 17). J. Imbert. Rubber tired wheel.
- 354,374 (May 13). C. Nielsen. Valve for pneumatic tires.
- 354,384 (May 17). E. L. A. Olivier. Pneumatic tire.
- 354,410 (May 19). F. Thevenot. Vehicle tire.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Bobet, Ingenieur-Conseil, 16 avenue de Villiers, Paris, at 50 cents each, postpaid.]

TENDERS FOR AIR BRAKE HOSE IN GERMANY.*

THE saying that small things often produce great results has long since proved true, and small things should therefore always have our careful attention. But in cases where, for instance, the safety of the traveling public is concerned, we undoubtedly have the right to demand that the most minute attention be given even the smallest object capable of preventing danger. A brake hose may be said to be a rather unimportant article in itself, yet much may depend on it at critical moments. Should some critic, however, conceive the idea of testing some of the air hose in use at the present time, in respect to its component parts, and especially as to the percentage of good rubber found therein, he might easily make the sensational discovery that he had been testing a piece of rubber hose in the composition of which the most important part, viz.: the India-rubber, had been almost entirely omitted. This assertion may appear somewhat bold, in fact, almost unworthy of belief, and yet it is justified. It is an actual fact that railway brake hose can be found that can scarcely be called rubber hose.

The manufacturers, however, are not at fault, nor can the railway officials be made responsible, these deplorable results being due to the justly criticized system of calling for bids or tenders. A study of the results of this system establishes the surprising fact that the prices quoted show a continuous decline rather than increase, in spite of the repeated advances in the price of crude rubber. Those who desire to be successful in submitting tenders for brake hose must at the present time make their offer as low as 3.50 to 4.00 marks per cubic decimeter. These are exceedingly low quotations, at which sellers do not like to furnish even the cheapest grade of garden hose.

Figuring the average specific gravity at 1.6 to 1.7, which corresponds to that of most of the brake hose in the market, the price per kilogram would be 2 to 2.50 marks [=21½ to 27 cents per pound], while a medium grade of crude rubber, but by no means the highest grade, must be paid for by the manufacturer himself at the rate of 12 marks per kilogram [= \$1.30 per pound]. Even those not connected with the rubber industry may therefore readily judge of the quantity of such rubber that it is possible to use in brake hose to be sold at 2 to 2.50 marks. Such hose really deserves the name of rubber only because parts of old rubber shoes or similar substances are largely used in its manufacture.

The advance in the price of crude rubber has kept pace with the methods of utilization of waste material, which allows of a saving in crude rubber in the manufacture of certain classes of goods, or even of replacing it almost entirely. Under certain conditions this is not in the least detrimental to the interests of the consumer, for a material of this kind, provided it be of fair quality, is well adapted to take the place of new crude rubber, within certain limits. The manufacturers will always try, and are in fact, compelled to try to utilize advantageously waste material. Those who commence adding small quantities, will gradually increase the percentage, as long as they find that good results are obtained, until they at last reach a limit which compels them to halt.

Such a proceeding is entirely correct, but it requires a thorough knowledge of manufacturing as well as extensive experience, and above all great circumspection and discretion. All those products that may appear quite satisfactory at first, and

seem to answer practical requirements, may not prove successful afterwards. They will often, after a short time, become like putty, losing their elasticity and no longer possessing any of the essential qualities of rubber. Such goods will soon become useless. In such cases it is necessary to make practical experiments and to await results, before offering novelties of this kind to the trade.

The question is, whether all manufacturers use such circumspection, though it appears self evident that they should do so, or whether there are some among them who impetuously and thoughtlessly refrain from making tests of any kind. No one will assert that none of the latter class are to be found in the rubber industry, and there are, perhaps, more of them than appears desirable for the interest of the trade. We have often enough had occasion to wonder at fabulously low quotations, but they quite often find their explanation in the serious disappointments following the use of such low priced products. The practical man in the trade asks himself in astonishment how it was possible to even offer such goods, when even the most superficial practical tests would have shown the deficiency of the material. Investigation usually shows that such tests have undoubtedly not been made at all, but that the goods have been cheaply manufactured in a haphazard way, leaving it to the customer to dispose of them as well as he can. We do not, however, wish to assert that such cases, in which the goods have been made in a careless way, always end in disappointment. They quite often turn out comparatively well, and this is, in fact, the most serious side of the question, as it encourages this class of manufacturers. What do they care, whether they sustain a loss once in a while? There are always opportunities enough for making up for them.

As long as such disappointments, carelessly invited by the manufacturers, lead merely to the loss of custom and to such considerable or slight sacrifices by the consumer as may be measured in money, the matter is not so very serious. In such cases all parties concerned would have to stand the loss, which is usually not entirely undeserved. But when such experiments with carelessly manufactured, cheap goods are extended to supplies furnished the railways, the matter becomes very serious indeed. It is a fact that the system of tenders makes it very easily possible for railways to be supplied with unsufficiently tested manufactured goods, and this should be prevented, at least where such articles are involved as may affect the safety of the service. In such cases the railway should never be made a subject for experiments, and least of all in the matter of such supplies as brake hose, for which there is certainly no necessity of continually inviting new competition, on account of the question of price, and thereby to lower the quality of the goods.

The operation of railways offers exceptionally serious difficulties for establishing such reliable testing methods as will admit of forming a judgment of the qualities of the supplies when in practical use. Manufacturers are therefore usually satisfied with making such goods as appear to be about suitable for the purpose. The railways are consequently used from year to year as testing stations, and this is quite a serious matter. For a well appointed, well patronized D train [fast express], the price of the brake hose is such a small matter that its greater or lesser cost may be left out of consideration. All will agree that the highest possible quality of hose should be selected, as it is one of the factors on which the safety of the entire train depends.

* Translated from *Gummi Zeitung*, Dresden, Jahrg. XX (1905) Pp. 77-81.

Is it justifiable, therefore, to use brake hose at about 3 marks [=71½ cents] a piece, representing about the lowest quality made, when there is an opportunity for obtaining hose of vastly more reliable and durable quality? Should a difference in price amounting to a few marks even be taken into consideration, where brake hose is concerned, in view of the purpose for which it is to serve? Certainly not! The bursting of a brake hose of insufficient quality may, at a dangerous moment, do enormous damage.

The question may be asked how it became possible to reach such conditions as these. It would appear that the management of the railway which would allow them to exist would be guilty of a very serious neglect of its duties. Still, their existence remains a fact, and though they certainly do not apply to all cases, the above remarks are applicable to some. Purchases are made by various methods, but usually by the system of tenders, and wherever this is done, the purchases will be determined by the cheapness of the goods. It is true that there are certain fixed provisions for the quality of the supplies, including the brake hose, and the samples are subjected to certain tests, but all of this does not prevent preference being given to low priced and low grade goods, to the detriment of more expensive supplies of higher quality, as long as the former have stood the test.

It is, of course, possible to apply the system of tenders in various ways, and we do not desire to assert that the lowest prices always obtain, but the mere possibility of such cases, in which the preference is given to the cheapest goods, even where such articles as brake hose are concerned, offers a sufficient ground for the condemnation of the system, as applied thereto.

Whenever, as is often done, the regulations provide for testing the cheapest goods first, and then proceeding with the higher grades, until an article has been found that will stand the test, the good medium and highest grades are as a rule practically totally excluded from the competition. Such a method of testing offers many advantages, but it may at the same time have serious disadvantages. Especially where such an article as rubber is concerned, it quite often happens that cheap goods will stand the test quite well, though they will not prove sufficiently durable in practical use. Cheap grades, especially such as are being placed on the market at the present time, often disintegrate more rapidly than the better grades, and this is a serious objection. Brake hose should last one year at least,* and the manufacturer must warrant his product for such a period, the requirements for practical service being formulated on this basis. For goods manufactured from sound, new rubber, such durability is not in the least unusual. When, however, senseless competition is allowed to continually drive prices down, and when waste material becomes the principal ingredient of the goods, conditions must arise which must be very seriously considered. We are undoubtedly at the present time approaching such conditions, and may very probably have already reached them.

We do not mean to deny that the hose is still able to serve its purpose, notwithstanding their extreme cheapness. Is there any necessity, however, of manufacturing brake hose, an article that may be of the highest importance, from all kinds of inferior substitutes, in the cheapest possible manner, while the use to which such hose is put, theoretically indicates the use of the best and most durable rubber material? Most certainly not for it surely seems ridiculous to try to effect a saving of a few pennies on brake hose, and thereby enormously increase the dangers of the traveling public.

* In the United States manufacturers are required to guarantee railway air brake hose for two years.—THE INDIA RUBBER WORLD.

We need not state that our railway authorities have no intention of creating such conditions. They are merely the victims of the system of competitive bidding, and no individual parties can be held responsible therefor. It is, however, the duty of the interested parties furnishing the supplies, to submit a presentation of the facts to the railway authorities, as soon as they notice the appearance and growth of serious drawbacks relating to the values and use of their products. A general condemnation of the system of competition bidding is useless, for no one would listen to it. But as soon as individual instances are specialized and the detriment proven in each case, there is no doubt that the railway authorities will agree to a practical investigation of the matter. If the unpopular system of tenders, when applied to railways and to rubber goods, is to be successfully attacked, the question of the supply of brake hose would certainly afford the best article for contention.

The objection that not many accidents caused by the bursting of brake hose have as yet been heard of, cannot serve as an excuse for present unfavorable conditions. Such accidents have already occurred, and they will still be within the range of possibilities, even though the highest grade of rubber hose were used, but the chances of their occurring are undoubtedly much greater when they are made from poor material than when they are of good quality, and this ought to suffice for the definite and lasting rejection of all inferior products. Unimportant as this matter certainly is for the railways, as far as the cost is concerned, it would not even involve a financial sacrifice, for the higher cost of high grade hose would be made up by its greater durability. We must, moreover, take into consideration, that with the much cheaper products of the last few years, the limit of the decline in quality has not yet been reached. The manufacturer will continue his efforts to cheapen his products still more, and as other means appear scarcely possible from a technical standpoint, the cheapening will have to be brought about by lowering the quality of the goods.

But how can an effective change be accomplished? The railways must, after all, purchase such goods as the manufacturers recommend as being of good quality, and such as the test apparently proves to be suitable! That is true, and this fact presents many difficulties, which we cannot fail to acknowledge. All desire to participate in the furnishing of supplies, and only a few receive the orders. This situation must first of all be changed. The only effective way would be for all manufacturers to furnish the supplies in equitable shares, and to manufacture the most practical railway supplies, in accordance with a definite plan, to be jointly agreed to. This need not refer to brake hose alone, but could be extended to all other kinds of rubber goods.

It would not prove difficult to come to an agreement regarding the best mode of manufacture, on the basis of conferences to be held for the practical discussion of the subject. It would become the duty of each manufacturer to be responsible for the appropriate manufacture of the part of the order assigned him, on the basis of precise directions, which could be readily supplied. If every one, from the workman up, who consciously aids in producing an inferior article, were to be subject to a fine, fraud could be efficiently prevented. After all, it may be assumed that all manufacturers would try to act honestly. The matter is well worthy of consideration, and speakers in favor of it may possibly appear.

AN advertisement now displayed in the street cars in New York is unquestionably of Hibernian origin. In the first place, it warrants every pair of dress shields perfect, and then offers to refund the money for those that are not perfect.

CONDITIONS AND EXTENT OF CEYLON RUBBER PLANTING.

TWO facts of importance in connection with the planting of rubber now in progress in Ceylon—and similar conditions are obtaining in the Malay States—are (1) the wide distribution of the work, involving the interest of very many people, and (2) the systematic manner in which the new culture has been undertaken. It is to be noted, by the way, that all planting of the more important products in those countries is conducted on a comparatively large scale—generally by companies (often owned in England), whose estates are placed in the hands of salaried managers of experience and proved capacity.

The account keeping of these estates is required to be as

carefully done as in a mercantile house or the office of a railway manager; with directors and shareholders to be satisfied, in the matter of returns, the estate manager must study every possible economy, while the best possible product must be obtained in order that good prices may be realized. Under such conditions is produced, for example, the Ceylon tea of commerce. Of course there are many privately owned plantations, but their methods do not vary, practically, from those on estates owned by companies. Not the least important consideration is the exchange of views and results, through the medium of the well sustained planters' associations, by which means whatever progress is made on one plantation results in the common

ESTATES WITH PLANTED RUBBER, IN KALUTARA DISTRICT, CEYLON.

ESTATES.	Proprietors.	Resident Managers.	ACREAGE.			Post Station.
			Cult'd.	Tea.	Rubber.	
Ambettenne	Cooper, Cooper & Johnson, Ltd.	C. Henly	522	452	a 70	Neboda
Arapolakanda	Eastern Produce & Estates Co., Ltd.	H. V. Bagot	604	401	b 20	Tebuwana
Bogahagodawatta	A. Sirimane	J. A. Sirimane	455	210	c 10	Bentota
Clontari	General Ceylon Tea Estates Co., Ltd.	K. A. Burne & Cond'r.	232	195	A 38	Neboda
Clyde	Clyde Tea Estates Co., Ltd.	G. G. Massy	303	240	63	Kalutara
Culloden	Rosehaugh Tea Co., Ltd.	R. W. Harrison	1233	789	d 444	Neboda
		A. C. Corbetta				
Eagle's Land	General Ceylon Tea Estates Co., Ltd.	J. P. Dove	160	160	e	
Elladuwa	Dimbula Valley Tea Co., Ltd.	A. Bawa	285	158	B 127	Kalutara
Ellekanda	Rosehaugh Tea Co., Ltd.	R. Garnier & Conductor	518	426	f 83	Horana
Frocester	J. E. H. Graham Clarke	J. E. H. Graham Clarke	46	...	46	Neboda
Gikiyanakanda	Lord Elphinstone	A. G. Glenie	1312	557	c 755	Neboda
Glanrhos	General Ceylon Tea Estates, Ltd.	J. P. Dove & Cond'r.	222	209	g 13	Neboda
Glendon	Heirs of R. Booth	R. J. Booth	300	250	50	Neboda
Halwatura	Anglo American Direct Tea Trading Co.	F. J. Wright	1172	1072	h 100	Ingiriya
		J. I. Hall				
Heatherley	Rosehaugh Tea Co.	R. W. Harrison	404	340	D 64	Neboda
		C. O. Macadam				
Kaluganga	Clyde Tea Estates Co., Ltd.	G. G. Massy	186	135	51	Kalutara
		A. Wood				
Lliskillan	Clyde Tea Estates Co., Ltd.	G. G. Massy	176	143	33	Kalutara
		A. Wood				
Mahagoda	F. O. Van Rooyen	A. J. Van Rooyen	54	39	6½	Bentota
Malaboda	Lanka Rubber Co., Ltd.	C. Henly	165	...	165	Neboda
Middellena	Government of Ceylon	Conductor	20	...	20	Kalutara
Millewa	H. J. Pieris, J. P.	E. Fernando & Cond'r.	1105	1000	10	Padukka
Miriswatta	H. Don Carolis and L. F. Fernando	Conductor	125	35	90	Horana
Meegama	Rosehaugh Tea Co., Ltd.	R. W. Harrison	227	...	227	Bentota
		A. C. Corbetta				
Neboda Group	Neboda Tea Co. of Ceylon, Ltd.	R. Morison,	720	495	225	Neboda
		Alex. D. Callander, Actg.				
Neuchâtel	C. C. Mee	C. C. Mee	800	475	i 322	Anguruatota
		C. J. Adamthwaite				
Padukka	Rubber Plantations of Kalutara, Ltd.	C. L. Vizard	34	...	34	Padukka
Pallagodda (including St. Columb Kille)	Kalutara Co., Ltd.	L. C. S. Marshall	818	682	j 125	Bentota
		H. P. E. Lyford				
Pantiya	J. H. Strachan	P. W. N. Farquharson	563½	446½	k 117	Neboda
Perth (including Maputugalle)	Ceylon Tea and Coconut Estates Co., Ltd.	P. T. L. Wetherall	1047	410	l 80	Horana
		(R. H. Algie, Actg.)				
Polgahakanda	L. C. S. Marshall	K. A. Burne	243	227	E 16	Neboda
Putupaula (including Crurie)	Putupaula Tea Estates Co., Ltd.	H. A. Tipple	576	400	m 176	Neboda
Rayigam	Rayigam Co., Ltd.	A. J. Dawson	802	696	n 106	Padukka
		C. T. Sinclair				
Rogart (including Llangslan)	Heirs of R. Booth	R. J. Booth	436	249	187	Neboda
Sirikandura	Mrs. Jeremias Dias	G. M. A. Perera	375	370	o 5	Matu. g Neboda
St. George's Group	H. V. Bagot, R. W. Harrison	C. Henly	386	...	386	Neboda
Talagalla and Knutsford	The Consolidated Estates Co., Ltd.	C. L. Vizard	649	617	p 21	Padukka
Tempo	F. G. McGuire and J. E. H. Graham	J. E. H. Graham Clarke	478	297	q 181	Neboda
		Clarke				
Tudugalla Group	J. H. Starey	Herbert Inglis	792	590	r 202	Neboda
Vogan and Iddagodde	Vogan Tea Co., Ltd.	W. N. Tisdall	1085	816	s 269	Neboda
		R. V. Grimwood				
Yatadola	Kalutara Rubber Co	C. Henly	374	100	274	Neboda

NOTE.—The *italic* letters (a, b, c) in the Rubber column indicate the number of additional rubber trees planted among tea on the same estates, as follows: a—10,000; b—36,550; c—12,000; d—78,900; e—12,000; f—20,000; g—10,000; h—4,000; i—3,500; j—14,297; k—3,000; l—1,810; m—4,000; n—1,000; o—1,000; p—1,000; q—25,000; r—30,264; s—24,000; total, 1,321 trees among tea, without the acre-

age being specified.

The small capitals (A, B, C) in the same column indicate the number of acres of tea interplanted with rubber: A—15 acres; B—30 acres; C—45 acres; D—340 acres; E—10 acres; total, 4.0 acres.

good. It is under such business conditions—it is by the experienced tea planters, as a rule—that the planting of rubber has been begun. The planters who are now reporting a profit from rubber are applying to it the business-like methods of accounting by which they have determined the rate of dividends to be paid on the capital invested in tea planting. There is nothing haphazard, therefore, in the beginnings of rubber in Ceylon, though there doubtless may be mistakes while the planters are gaining experience, just as mistakes occurred in the earlier days of tea culture.

With regard to the distribution of the rubber planting, a reference to the authentic "Ceylon Hand Book" shows that the new culture has been undertaken on hundreds of established plantations, many of which are now beginning to market rubber. The extent of rubber planting promises to increase largely in the near future, in many cases with a view to the ultimate giving up of tea. And there is a growing tendency to concentrate several of the existing plantations under one management, through the formation of new companies, of larger capital than in the past.

It may be of interest to some of our readers to see a census of rubber planting in one of the 38 Ceylon districts in which rubber has been planted. The district selected is Kalatura, in which exists nearly one fourth of the rubber planting in the colony. In compiling these figures from the "Hand Book" for 1905-06, only those plantations are noted on which rubber has been planted; the figures relate to the total acreage under cultivation, the acreage in tea, and that in rubber alone, while in the form of foot notes is indicated the additional planting of rubber on the same estates.

OAXACA RUBBER CO.

[Plantation near Ubero, state of Oaxaca, Mexico. Office: No. 29 Broadway, New York.]

A CERTIFICATE was filed with the secretary of state of New Jersey on October 24, 1905, changing the name of the Oaxaca Real Estate Development Co. to Oaxaca Rubber Co., and increasing the capital authorized from \$350,000 to \$1,250,000. This company, incorporated in 1900, was under contract to develop the plantation of the Isthmus Rubber Co. of Ubero, a Delaware corporation. The two companies have now been merged [See THE INDIA RUBBER WORLD, October 1, 1905—page 15.] and the affairs of the Isthmus company are being wound up. The idea is to no longer have an "inside" development company, but to have all persons in interest in the plantation share in any profits resulting from the development work. As matters now stand the land is capitalized at \$125 per acre, instead of \$350 as formerly. The present directors are: George S. Delano, Medford, Mass. (president); Caleb B. Leach, Middletown, Conn. (vice president); W. I. Overstreet, New York (secretary and treasurer); Edgar B. Bronson and Francis H. Ross, New York; Joseph T. Elliott, Middletown, Conn.; A. H. Chase, Norwich, Conn.; George R. Bissell, Columbus, Ohio; Jonathan R. Blackwell, Trenton, N. J. —The annual meeting of shareholders of the Oaxaca Rubber Co. will be held at the registered office in Jersey City on December 4.

BADGER MEXICAN PLANTERS CO.

[Plantation in the state of Vera Cruz, Mexico. Offices: 1444 Unity building, Chicago.]

THE capital of this company, organized in Wisconsin in 1903, has been increased from \$275,000 to \$1,000,000, all common stock. It has absorbed the affiliated Badger Mexican Plantation Co. (incorporated in Maine), and is a plain stock company. An important amount of the capital is now held by a number of expert Louisiana sugar men. The offices of the company have been removed from Racine, Wisconsin, to Chicago. The com-

pany's properties embrace the plantation "La Florencia," near Santa Lucrecia, state of Vera Cruz, Mexico, the rubber on which has been referred to in THE INDIA RUBBER WORLD. The company advise us: "We propose to devote most of our energies in the future to the production of sugar. What plantings we have in rubber, amounting to 450 acres, will be kept up, but nothing more will be done in this line probably for some years to come." The officers now are: William W. Allis, president; Frank K. Bull, vice president; Warren E. Fish, treasurer; and J. H. Mahony, secretary.

MEXICAN MUTUAL PLANTERS CO.

[Plantation "La Junta"; Sanborn postoffice, state of Vera Cruz, Mexico. Office: 907 Journal building, Chicago.]

A RECENT report of this company relates to the expiration of the five year contract under which the original development work was to be completed, and the prospective visit of a committee in behalf of the investors to report on the condition of the property. It is stated that the work has been completed in accordance with the company's prospectus, there now being under cultivation 2746 acres in rubber, 460 in coffee, and 127 in cacao, besides 1027 in pasture land and the "village tract" of 323 acres, comprising buildings, yards, gardens, and various fruits. The estate comprises 5554 acres, of which the area not above specified is to be reserved as forest land. This year 750 acres have been planted in rubber; 1000 acres were planted last year, and during the previous three years practically 1000 acres—all reported to be in excellent condition. The first planting of coffee has already become productive. It is stated that the company and its directors personally have put \$125,000 (gold) into the property, and have not yet taken out a cent in any form. Besides, shareholders in the corporation have subscribed for about 1000 of the 5000 bonds offered for public subscription. The company indicate a hopeful feeling in regard to the ultimate productiveness of the rubber, none of which is yet more than 5 years old. The plantation manager, Mr. James C. Harvey, who is personally interested in the neighboring private plantation "La Buena Ventura," is reported to have tapped experimentally 3000 six year old trees in this plantation, not so much for the purpose of determining the possible yield as to gain experience in tapping and to ascertain the quality of the product. The average yield of 1500 of the largest trees was 3 ounces. On another neighboring plantation 40 trees 6½ years old, tapped once, yielded an average of 4 ounces of rubber, and tapped again a month later yielded as much more. The manager felt that with more vigorous tapping ½ pound per tree might have been obtained at a single bleeding.

YIELD OF PLANTED RUBBER IN MEXICO.

TO THE EDITOR OF THE INDIA RUBBER WORLD: You may be interested to know that in 1904 I took from 1000 rubber trees, 5½ years old, 84 pounds of dry rubber, which I sold for 75 cents per pound, and in 1905 I took from 500 of these same trees 167 pounds which sold for 85 cents per pound. The total cost of the first lot, including gathering, freight, brokerage, commission, custom house charges, etc., was \$19.20; cost of the second lot, with same charges, was \$32.73. These trees could have been tapped more heavily, but I am going slowly in this respect. Yours respectfully,

Vera Cruz, Mexico, October 7, 1905.

A PRIVATE PLANTER.

* * *

PALENQUE Plantation and Commercial Co. (San Francisco) was incorporated September 22, 1905, under California laws, to plant rubber and coffee in Mexico; capital authorized \$1,000,000, in \$100 shares. Directors: R. Herring, J. P. Prutzman, J. W. Dayan, J. E. Polhemus, and James Watkins—all of San Francisco.

A CALL FOR MORE AIR BRAKE HOSE.

THE Interstate Commerce Commission at Washington has issued an order requiring an increased use of air brakes on freight trains. The original order required that on all freight trains not less than 50 per cent. of the cars should be operated with the use of air brakes, and said order has been in full force since July 1, 1904. The evident purpose of the law, however, was that ultimately all cars should be equipped with air brakes and that all the brakes should be used in running trains, and the commission has labored to the end of seeing that this condition should in time be reached. It has been necessary, however, to consider limitations which existed in the capacity of the railroads to adapt themselves to full compliance with the law, and on November 2 there was a hearing before the commission, attended by representatives of the railway companies, on the question of increasing the minimum of power braked cars in freight trains to 75 per cent. On November 15 it was decided by the commission that such condition would be insisted upon from and after August 1, 1906.

It was represented by the railway companies that such is the demand for transportation at this time that practically all their cars are in use, including many old cars which are not worth equipping with air brakes, and which it is intended to retire from use and break up as rapidly as car builders are able to supply new cars with which to replace them. Many railway companies reported that large orders for new cars had been placed which could not be supplied for months to come. It was in view of these considerations that the commission has granted to the railway companies a delay until August 1 next for raising the minimum of power braked cars to 75 per cent. Already, however, this minimum is exceeded on many railway lines, and the disposition of all the companies appears to be to equip their cars with air brakes to the fullest extent, feeling that such equipment tends to the greater safety of employés and the public, and increased economy in operation.

Practically complete returns from the railway companies on October 1, 1905, showing a total of 1,790,113 freight cars owned by them, of which 1,564,396 were equipped with air brakes. The difference was 225,717 cars, the equipment of which would call for 451,434 pieces of air brake hose. The commission had also the returns showing the use of 111,122 privately owned freight cars in the United States, practically all equipped with air brakes. For some time past all the rolling stock employed in the railway passenger service in the United States has been fully equipped with air brakes with results that have been universally appreciated.

SWEATING OF AFRICAN RUBBERS.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Earlier in the year you were kind enough to insert several letters from me, *re* the "Sweating of African Rubbers." These letters were answered by several gentlemen who seemed unanimous in their convictions that the trouble was caused by the larger amount of resin contained in these gums when compared with those of different climes. I have always felt that their arguments were not based on facts, but from mere suppositions, especially when they failed to set forth any theories showing the why and wherefore of their reasoning. I have followed up my experiments, however, and am more convinced than ever that they were wrong.

You will remember that my demonstrations showed that from the same bag of Loporé were taken three samples—one of good clean gum, one much decomposed by being sweated, and

another which was a mixture of both. The first cured all right, the results were what they should be; the second was "altogether to the bad," and could not be cured; the third was not so bad, but it was not correct by any means. Analysis showed the same amount of resin in each. Additional resin, to the amount of 2½ per cent. was added to sample No. 1, and made no difference that could be detected.

My later experiments have been as follows: Took some Loporé under the same conditions as before, extracted the resin from each sample, and hung it in the drying room, subjecting the whole to a temperature of 90° F. The results were as before, only the best sample hanging more than 10 hours; then after adding 6 per cent. each of sulphur and litharge, I attempted to cure the same in a mold, giving it one hour, with 45 pounds pressure of steam (about 290° F.). The poor sample failed to cure at all; it hardened up, and was short and non elastic.

Now, Sir, I am convinced that the resin theory is a fallacy; that it is wrong; that the trouble consists altogether with the method of gathering, exposure to the sun, or the heat of the steamer hold when in transit. Yours very truly,

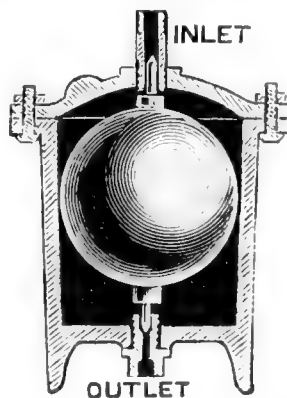
A. D. THORNTON.

Montreal, Quebec, November 20, 1905.

THE "EUREKA" STEAM TRAP.

THERE is probably no problem, the solution of which has given steam users more trouble than that which relates to the removal of the water of condensation from the pipes conveying steam to the power generator or the radiating medium. The attention which this matter has received is evidenced by the almost innumerable devices in the shape of steam

traps which have been offered to steam users, but each succeeding inventor has apparently, sought to introduce new complications of levers and bearings, until some engineers evidently consider a steam trap as one of the evils of his existence. A steam trap, in order to perform its functions satisfactorily, should be simple in construction, and so designed as to absolutely prevent leakage of steam when the water has been discharged. The inventor of the "Eureka" steam



trap, illustrated herewith, has designed an apparatus meant to meet these requirements fully.

The simplicity of the Eureka trap renders unnecessary any extended explanation. It is positive in action. The weight of the float and the pressure effective on the area of the valve stem keeps the outlet closed until the submergence of the float overcomes the weight and pressure; the float then lifts the valve wide open and the water is discharged until the float drops and closes the outlet. While the trap is discharging a rotating motion is imparted to the float by the outgoing water on which it rests, thereby causing the valve and the seat to be automatically reground at every operation.

The entire absence of levers, bearings, springs, etc., which usually cause trouble in steam traps, should recommend the Eureka to engineer or superintendents of rubber mills. The Eureka traps are manufactured in all standard sizes, and are sold at prices that compare favorably with the common trap. [Osgood Sayen, Arcade building, Philadelphia.]

THE SCRAP RUBBER MARKET.

CURRENT conditions are believed to favor a maintenance of the sustained position of the market for old rubber boots and shoes, and while prices are likely to show fractional fluctuations during the next few months under influences of a normal market character, no material changes in values are awaited. The present basis of quotations is not regarded as fictitious, but founded on legitimate conditions, to which some reference may be timely in this connection. The comparatively low range of prices which had prevailed for five years before the turn of a few months ago was the result of an understanding among the largest consumers of reclaimed rubber, whereby the sources of supply were apportioned to effective advantage.

This arrangement fully served its purpose, and the market followed a fairly even course, but in the meanwhile conditions were developing which were destined to play an important part in asserting the inevitable influences of supply and demand. The market for crude rubber had been in upward tendency during this period, and the fields of consumption for reclaimed rubber had shown substantial growth, absorbing to a considerable extent what surplus stocks had been accumulated.

Then, the development of the industries from which little returns were made lent a decided influence to the stronger tendency of the situation. The growth of the electrical industries has been especially great, and there had been a marked improvement in the carriage cloth trade, particularly in the West. The ultimate returns from this field in the shape of old rubber amount to almost nothing. There were other mechanical industries which were enlarging their operations, the returns from which were small and of inferior qualities. Then for the last two winters the boot and shoe trade had been active, enhancing considerably the consumption of reclaimed rubber.

Another factor which has been mentioned in this connection is the condition of affairs in Russia during the last year or more. This country had proved a source of comparatively large supply within recent years, but with the outbreak of hostilities and the attending disturbance of mechanical and agricultural conditions, the receipts of old rubber boots and shoes were largely curtailed. Under the conditions which have been mentioned, the general average advance of between 40 and 50 per cent. on all grades of scrap rubber since the opening of the present season would seem to be based on logical premises, and while the general state of trade throughout the country is of such a satisfactory character, the market for reclaimed rubber will be likely to maintain a firm position.

The range of quotations for old boots and shoes so far this season has touched extremes at $5\frac{3}{4}$ and 9 cents, but the season of 1898-9 brought even a wider range of prices, which fluctuated between $6\frac{1}{4}$ and $11\frac{1}{4}$ cents. The large consumers hold fair stocks and are not apt to prove a factor in the market until the opening of the new season, but the requirements of the smaller dealers over the balance of this season are likely to aggregate good proportions, reducing holders' stocks to an appreciable extent.

The course of the crude rubber market is attracting much interest, and as the effect of the higher level has already been noted in the increase in the consumption of reclaimed rubber, the position of crude may prove of further significance. The outlook for next season's supplies of scrap is not to be considered at this time, conditions being too indefinite to permit even a forecast. But meanwhile the demand for reclaimed rubber is constantly increasing.

LITERATURE OF INDIA-RUBBER.

CIRCULARS AND AGRICULTURAL JOURNAL OF THE ROYAL Botanic Gardens, Ceylon. Vol. III—No. 6, July, 1905. Pará Rubber in Ceylon. By Herbert Wright and A. Bruce. Colombo: 1905. [8 vo. Pp. 55-86.]

THIS is a careful summary of scientific investigations which have been applied to questions relating to climate, soil, elevation, manuring, and other like questions in connection with rubber culture, in a region which, longer than any other has been the seat of this industry, some of the trees which figure in these investigations being now 29 years old. The questions here considered have not been so thoroughly treated in any other report; besides which they have a practical value in their application. It might be added that a Colombo publisher announces having in press an extensive work on the Pará rubber tree and its culture, by Mr. Wright, who long has been on the staff of the Ceylon botanic gardens, and filled the position of director during the recent absence in England of Dr. Willis.

THE CEYLON HAND BOOK AND DIRECTORY, AND COMPENDIUM of Useful Information for 1905-06. To which is Prefixed a Statistical Summary for the Colony and Review of the Planting Enterprise up to July, 1905. Compiled and edited by J. Ferguson, C. M. G., M. L. C., Colombo: A. M. & J. Ferguson, 1905. [Cloth. 16mo. Pp. XL+1364+XLV+ folding tables. Price, 15 rupees.]

WHILE not issued with any special relation to the rubber interest, this has become a most important record of rubber culture, to which the compilers of the work, connected as they are with *The Tropical Agriculturist*, have for some years past devoted careful attention. One year ago the "Hand Book" reported the plantations of rubber alone in Ceylon at 10,034 acres, exclusive of an estimated equivalent of 26,201 acres of rubber planted with other crops. One year later the figures given are 23,285 acres for rubber alone; 8,598 acres rubber in connection with other crops; and 2,600,000 rubber trees in other crops, the acreage of which is not estimated.

IN CURRENT PERIODICALS.

L'HEVEA BRASILIENSIS; sa Culture et son Exploitation dans le Sud Annam. By G. Vernet [chemist of the Pasteur Institute at Nha-trang. A comprehensive summary of the characteristics of the "Pará" rubber species and the conditions favorable for its cultivation, with a summary of results obtained to date in French Indo-China; with comments by G. Capus; illustrated]. = *Bulletin Économique*, Hanoi. VIII-44 (August, 1905). Pp. 687-734.

La Production et la Consommation Mondiales du Caoutchouc. By H. Brenner [assistant director of agriculture and commerce of Indo-China; credit given to THE INDIA RUBBER WORLD for statistics.] = *Bulletin Économique*, Hanoi. VIII-44 (August, 1905). Pp. 735-742.

The Preparation of Rubber at Mergui, Tenasserim. [Experiments at a government station in Burma.] = *The Indian Forester*, Allahabad. XXXI-9 (September, 1905). Pp. 530-534.

A SOLVENT FOR INDIA-RUBBER.

THE specification of British patent No. 6471 (1904), issued to Robinson and Clift for an India-rubber solution, states that pyridine and like bases or heavy bases from coal tar, bone oil, and the like are used as solvents for rubber in making rubber solution or in extracting rubber from waste. This is preferably done in a number of tanks into which the rubber within a cage is successively lowered, or by placing a cage in each tank and circulating the solvent through the latter so that fresh solvent first comes in contact with the nearly dissolved rubber. The rubber is precipitated by acid. Coal tar, benzol, naphtha, or other solvents not precipitated by acids may be added to take up the rubber after neutralizing, and wood spirit or amyl alcohol may be used instead of acid for precipitating, provided benzol, naphtha, or the like have not been used.

THE ENGLISH MOTOR AND CYCLE SHOWS.

THE yearly automobile show at the Olympia, London, opened on the evening of November 18, was larger by far than any of its predecessors and was recognized as marking an important and distinct advance in the motor industry of Great Britain. Large as was the show, it is understood that there would have been many more exhibits if space had been available. The value of the exhibits was estimated at upwards of £400,000 [= \$2,000,000]. The Society of Motor Manufacturers and Traders, under whose auspices the show was given, have been greatly encouraged by its success.

On the same evening occurred the opening, at Agricultural Hall, of the twenty-ninth annual Stanley show, now termed the annual exhibition of cycles, accessories and motors, for the reason that a considerable number of motor exhibits was included in the catalogue. The Stanley show remains, however, distinctively a cycle show, and both in the matter of exhibits and attendance the exhibition just closed indicated a continued wide interest in cycling in England. Not a single foreign cycle exhibit was to be seen, which is taken to indicate that the demand for foreign cycles in England has been checked. Motor cycles were less prominent than a year ago. There was evident a revolution in favor of more substantial cycle tires than for some time past, due to an appreciation that really good tires cannot be made without good rubber and this costs money. Tire prices, therefore, are higher this year.

In this connection it may be mentioned that a number of bicycle manufacturing companies have recently closed their business year with a most favorable showing of profits, some of the companies making more favorable reports than in any former year.

A RUBBER POLO BALL.

IN a report of a game of polo at Newport, Rhode Island, on September 2, between two teams of well known players—the winning side including Reginald C. Vanderbilt—the New York Times says:

"The feature of the match was the use of a new polo ball, being of hard rubber with a pneumatic covering. The ball was tried as an experiment at the request of William A. Hazard, secretary of the Polo Association. It seemed to lack speed when hit and had a tendency to bound in the air instead of rolling well over the ground. The well known sound also was lacking when the mallet came in contact with the ball. After playing with it a few minutes Mr. Agassiz cried, 'Throw out a good ball,' and the customary wooden ball was produced. The new ball was not tried again. It was the opinion of the players that the pneumatic ball seemed dead when struck compared to the wooden one. Harry S. Kip refereed the game."

Secretary Hazard has not given up his interest in having a rubber polo ball tested, and is certain that the players are prepared to consider such a ball on its merits. As to objections heard to it thus far he informs THE INDIA RUBBER WORLD:

"I was told that it seemed too dead; they could get too little distance from it. They said they liked the sound of the wooden ball—they could judge from the sound whether it had been hit square, and so on. They complained that it became wild readily, and for that reason they could not play it longer than a wooden ball."

Mr. Hazard is still negotiating with rubber manufacturers, one firm of whom write to us: "We have made a few pneumatic polo balls, and they have been pronounced excellent in

certain features by some players who have urged us to complete the ball in all its details. This we are trying to do, and we hope to bring it out next season."

EXPERIMENTS IN VULCANIZATION.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I am sorry to see that you have made an error in your reference to my vulcanizations on page 41 of your last issue. The compounds used in both cases were the same, viz:

100 parts Fine Pará
50 parts Litharge
3 parts Sulphur
50 parts Whiting

Vulcanizations of samples of this compound were had in 211 days at 105° F. average temperature. The vulcanization was perfect and the elasticity was good. With 5 and 7 per cent. of sulphur the elasticity was excellent. At a proper high temperature, somewhere under 600° F., there is no difficulty in vulcanizing a sample of the same compound, and the same thickness in less than one second. Very truly yours,

A. O. BOURN.

Providence, Rhode Island, November 6, 1905.

AN OFFICIAL REPORT ON CONGO RUBBER.

THE *Bulletin Official* of the Congo Free State presents the official statistics of the commerce for that state for 1904, preceded by a report to the king of the Belgians by Monsieur Droogman, secretary general of finances. After mentioning a decline in exports of Caoutchouc of 1,087,044 kilograms, as compared with the former year, M. Droogman says:

The above stated decrease in the rubber exports had been foreseen, and I have explained the reasons for it in the report which was attached to the trade statistics for 1899. The King knows that the government is ever watchful for the purpose of preventing owners of rubber gathering enterprises from working too strenuously in gathering crops, which might result in the exhaustion of our forests.

Annual replanting on the other hand is in continued progress on a considerable scale, as a result of the carrying out of the provisions of the decree of January 5th, 1899. The number of rubber *lianes* and trees planted under this law up to the present time, may be figured at nearly 13,000,000. The effect of these measures will make itself felt a few years hence by an appreciable advance, and we may then obtain a normal and constant output, thanks to the use of methodical and rational methods of gathering and replanting.

AUTOMOBILES IN RUSSIA.

THE Dresden *Gummi-Zeitung* points out that a field exists in Russia for the sale of German automobiles. The favor with which American automobiles were once received is not calculated to be permanent, and the French, with all their facilities in designing beautiful and good vehicles, labor under the disadvantage that while their products are well adapted for French highways, they are not strong enough to stand the strain of the rougher Russian roads. The German machines, being built more solidly, are better adapted to Russian needs, but they have yet to make a reputation in the latter country. Our contemporary, therefore, advises the leading German firms not to neglect the opportunity which the Russian market offers for their products.

A QUESTION OF EXPEDIENCY.—The rubber weed industry which has been under discussion by the board of trade and local newspapers for some time is a subject worthy the attention of anyone who may find it expedient to hustle out to make a dollar or so.—*Durango (Colorado) Herald*.

THE RUBBER TRADE IN AKRON.

BY A RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The Diamond Rubber Co. filed articles of incorporation under the laws of Ohio, on November 7, with an authorized capital of \$1000. On November 9 a certificate was filed, increasing the capital stock to \$3,500,000. The first act mentioned was a legal formality in connection with making the Diamond a domestic, instead of a "foreign" corporation. The company hitherto has been a corporation under the laws of West Virginia. The Diamond company began its existence in 1895, when it was incorporated in Ohio with \$50,000 capital. In 1898, when Messrs. Hardy, Miller, and Marks became interested in it, the company was reorganized under a West Virginia charter. In 1900 the capital stock was increased to \$100,000, and this has been added to gradually until in 1902 it became \$1,750,000. The recent doubling of the capital has been rendered necessary by the constant growth of business of the company and the necessity of enlarging the capacity of the plant. It is understood that the new stock will not go to any outside interests, but will be taken by those already identified with the company. The growth of the capacity and business of the company were referred to recently in THE INDIA RUBBER WORLD in the review of a brochure entitled "Seven Years—The History of a Success."

The hard rubber ball for bowling is now being manufactured to a considerable extent in this city, the demand having increased materially within a year. The cost of such balls in comparison with those of *lignum vitae* interferes with their introduction, but for all that many bowlers give them the preference. The weight of the standard ball has lately been decreased from 16½ to 16 pounds, which lessens the cost of production slightly. Hard rubber balls for bowling, made at College Point, New York, were shown at the Centennial Exhibition at Philadelphia in 1876, but on account of their extreme cost they soon dropped out of sight, until Joseph Dangel, superintendent of the Akron works of the American Hard Rubber Co., who is a champion bowler, brought them again into notice a year or two ago. It is stated that a new ball made only in part of hard rubber is being manufactured somewhere in this country.

[The Brooklyn *Eagle*, in an article on the increased interest in the game of tenpins and the growing popularity of hard rubber balls, mentions that the New York Bowling Association has altered its by laws to permit the use of the rubber sphere in tournaments. It mentions that Joseph Witzel, of College Point, New York, has in his possession one of the first rubber balls made, which has been in use on his alley for nearly 20 years, and is still being rolled every day.]

The girls employed from out of town for the new rubber shoe department of The B. F. Goodrich Co. are not left to take care of themselves when arriving here. The company has been advertising in the local papers for good homes for girls, and on their arrival at Akron they are met at the train and conducted to desirable lodgings. The company has purchased a large residence on one of the best streets to serve as a working girls' home, and its management is under the auspices of the Young Women's Christian Association. Though this was done but a short time ago, the home is already well filled.

The suit of Peter Kiefer against the Diamond Rubber Co., which has been mentioned at length in THE INDIA RUBBER WORLD, has been dismissed at the cost of the defendant. Kiefer filed suit in February, 1903, asking for \$1995 damages, charging that he had been discharged from the company's employ and his name placed upon a "black list", on account of

which he was unable thereafter to secure employment in any rubber factory in the city. The case was tried more than once, and attracted considerable attention at times, but in the end he recovered no damages.

The Diamond Rubber Co. are building a one story addition 60×90 feet to their South Akron branch, where the crude rubber they use is washed and ground. The need of more room has also made necessary a small addition to the main plant, in the extension of the receiving department. This will include a new office for the purchasing agent, H. W. Lantz.

The Buckeye Rubber Co., who are manufacturers of rubber tires in large quantities, have just completed a new building, 42×70 feet, designed to increase the capacity of their vulcanizing department. The new addition is already in partial use and will be running in full by the end of the year.

The Firestone Tire and Rubber Co. have been moving into the new addition to their factory, mentioned in the October INDIA RUBBER WORLD, though the additional power plant involved will not be installed for some weeks yet.

Mr. James A. Swinehart, of the Swinehart Clincher Tire and Rubber Co., who has returned lately from a visit to the West, extending as far as the Pacific coast, has been led to believe that a great increase in the use of automobiles is imminent in the states visited by him.

The factory of the Summit Rubber Co., at Barberton, was entered on several succeeding Sundays lately by three small boys who created considerable havoc. They began by blowing up rubber surgeons' gloves and bursting them, after which they began to carry away goods, and finally disabled the gas engines and cut the belting. Their identity was discovered and they were held for action by the grand jury, but later this order was modified and a light punishment was inflicted in view of their age, none of them being over 12 years.

RUBBER HOSE MANUFACTURE IN JAPAN.

THE capital stock of Nippon Gomu Kabushiki Kaisha (Japan Rubber Co., Limited), of Tokio, Japan, founded in 1900, has been increased gradually until it amounts now to 180,000 yen [= \$89,712]. The location of the office and factory is Hashiba Asakusa, Tokio, and the management is headed by Mr. Washicka Yamazuki, president of the company. The products of the factory embrace hose—suction, steam, garden, and air brake—belting, packing, valves, buffers, rubber seats, and so on. The company are devoted especially to the manufacture of hose, and particularly to suction hose, the manufacture of which hitherto has not been accomplished satisfactorily in Japan. Such hose is made by them of any diameter desired, and in lengths up to 60 feet. The company's mechanical equipment has been derived from Germany and England.

日本護謨株式會社
NIPPON GOMU KABUSHIKI KAISHA

UNAPPRECIATIVE RUBBER WORKERS.

THE *India-Rubber Journal* learns that recently a meeting was held at Aston (Birmingham) to organize the rubber workers into a union, but as one speaker stated "he was surprised that the rubber workers were not there that morning to give some small support to those who were fighting their battle against their employers." Our contemporary concludes, therefore, that there does not seem to be much prospect of anything being done.

NEWS OF THE AMERICAN RUBBER TRADE.

DUNLOP TIRE AND RUBBER GOODS CO.

THE illustration on this page gives a view of the recently completed plant of the Dunlop Tire and Rubber Goods Co., which now is the style of the corporation until lately known as The Dunlop Tire Co., Limited, of Toronto, Canada. The smaller picture, in the upper left corner, represents the office building, fronting on Booth avenue. The factory extends back for a block to a siding off the Grand Trunk railway's main line east. The premises comprise one of the best factory sites in Toronto, and the land owned by the company will permit of considerable additions to the plant as the same may become necessary. There is no factory in Toronto more thoroughly fireproof, the floors, ceilings, walls, partitions, and stairways being of cement, reinforced by expanded metal. The walls are of heavy construction, to take on an additional story some day, and the power house is so located as to leave the sides of the building free for additional wings. The machinery equipment throughout is of the most modern type. A sprinkler system has been installed, being fed from the 40,000 gallon water tank shown in the illustration. On the tank, over the name DUNLOP are painted a pair of gigantic hands, in a position familiar to all who have seen the Dunlop tire advertising.

By way of a brief history, it may be mentioned that in 1894 The American Dunlop Tire Co.—itself an offshoot of the Dunlop Pneumatic Tyre Co. of England—then of New York, and afterwards of Belleville, N. J., and Hartford, Conn., opened a branch at Toronto, for the purpose of working the Welch bicycle tire patent and of supplying the Canadian trade with Dunlop tires. The trade grew to large proportions and in 1899 attracted the attention of a number of Canadian capitalists, who eventually purchased the Canadian business and floated the present company, styling it The Dunlop Tire Co., Limited. Just at this time the then manager, Mr. Richard Garland, resigned, to market the Australian Dunlop Co., and the present manager of the company, Mr. John Westren, was elected to succeed him. The company has continued to prosper, having branched out in a number of other lines—solid rubber carriage tires, horseshoe pads, and other mechanical goods, and now it is prepared to supply nearly everything in rubber.

Last April ground was broken for the new plant above described, and by October 1 everything was in running shape. The company purchased some 4 acres of land adjoining the railway, erected an office and factory building 250 × 50 feet, with separate compounding room, outside vulcanizing rooms and large outbuilding for its carriage department, spreader room, etc. These latter buildings are 150 × 30 feet. The company have selling branches at Montreal, Winnipeg, Vancouver, and St. John, and maintain a store in the business center of Toronto. They control rights under the Dunlop-Welch and "Clincher" tire pat-

ents—which have not expired on this side of the Atlantic—and the Doughty tire vulcanizing patents, and work under license the Firestone sidewire tire and the Ludington continuous tire process patents.

NEW JOBBING HOUSE AT CLEVELAND.

THE Forest City Rubber Co. (Cleveland, Ohio), the incorporation of which was noted in these pages last month, is composed principally of Messrs. William E. Crofut (president and treasurer) and John C. Poore (vice president and secretary). The former was connected with the Ohio Rubber Co. (Cleveland) for some time as treasurer and the latter for a number of years was leading traveling salesman for that company. Feeling that a field existed for a new company, and having a close personal acquaintance with the trade and a knowledge of its requirements, the gentlemen named have undertaken to carry on a jobbing business in a full line of mechanical rubber goods and such allied lines as automobile tires, interlocking tiling, and the like. They will carry the mechanical rubber goods line of the Voorhees Rubber Manufacturing Co. and also the leather belting of the Jewell Belting Co. The new house is favorably located at No. 22 South Water street, Cleveland.

A GROWING TRENTON FACTORY.

GRIEB Rubber Co. (Philadelphia) are engaged in increasing the equipment of their well organized factory at Trenton, New Jersey, the volume of production at which has been larger during the current year than in any other. They are preparing to add 4 presses to their plants, which will increase the number to 18, and have recently added a Birmingham calender of the latest pattern. The company are making, in addition to their well known specialties in heels, soles, and sheet soling, a varied line of products, such as hoof pads, bottle washers, gun recoil pads, massage machine rubbers, handles for tennis, ricket and golf clubs, and many other articles.

ARBITRATION OF BUSINESS DISPUTES.

THE New York Credit Men's Association, the excellent work of which has been referred to many times in THE INDIA RUBBER WORLD, has instituted an "arbitration bureau," to which its members are invited to refer for determination, disputes be-



PLANT OF THE DUNLOP TIRE AND RUBBER GOODS CO.

tween debtor and creditor, such as are bound to occur frequently and which in the past have often involved litigation, involving much expense and annoying delay. Further details regarding the new plan may be obtained from the secretary of the association at No. 320 Broadway, New York.

NEW YORK STOCK EXCHANGE TRANSACTIONS.

UNITED States Rubber Co.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Oct. 21	8,950	54 $\frac{1}{4}$	51 $\frac{1}{2}$	500	111 $\frac{5}{8}$	111 $\frac{1}{2}$
Week ending Oct. 28	8,090	54	52 $\frac{1}{2}$	2,445	110 $\frac{7}{8}$	110 $\frac{1}{4}$
Week ending Nov. 4	6,250	52 $\frac{1}{4}$	51 $\frac{1}{8}$	2,050	110 $\frac{5}{8}$	109 $\frac{1}{4}$
Week ending Nov. 11	11,110	51 $\frac{3}{4}$	49 $\frac{1}{8}$	1,050	109	107 $\frac{1}{2}$
Week ending Nov. 18	10,250	51 $\frac{1}{4}$	47 $\frac{3}{8}$	1,535	108 $\frac{3}{4}$	105 $\frac{1}{4}$
Week ending Nov. 25	28,100	55 $\frac{3}{4}$	51 $\frac{1}{8}$	4,025	112 $\frac{1}{4}$	108 $\frac{3}{4}$

THE SECOND PREFERRED STOCK.

THE new second preferred capital shares of the United States Rubber Co., details regarding which appeared in the last INDIA RUBBER WORLD (page 59), were formally admitted to trading on the Stock Exchange on November 1. More than a dozen firms interested in deliveries of the new stock met in the office of E. C. Benedict & Co. (New York) on November 1 to settle differences relating to the payment of dividends. Buyers of this stock "when and as issued" asserted that the regular dividend belonged to them, provided they bought the stock before the books closed on October 21 in connection with dividend payments. Holders of stock who send the new shares "when and as used" thought they ought to get the dividend payable October 31. The decision arrived at was in favor of the former class. Stock Exchange quotations for the new shares up to date have been as follows:

WEEK ENDING—	Nov. 1.	Nov. 11.	Nov. 18.	Nov. 25.
Sales	500	500	1,100	3,750
High	79 $\frac{1}{8}$	77	78	81
Low	77 $\frac{3}{4}$	75	75	77

RUBBER Goods Manufacturing Co.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Oct. 21	500	37 $\frac{1}{2}$	37	100	105 $\frac{1}{4}$	105 $\frac{1}{4}$
Week ending Oct. 28	1,770	38 $\frac{1}{2}$	37 $\frac{1}{2}$	100	105	105
Week ending Nov. 4	900	38 $\frac{1}{2}$	37 $\frac{1}{4}$	—	—	—
Week ending Nov. 11	700	38	37 $\frac{1}{2}$	200	105	105
Week ending Nov. 18	100	37	37	200	104	103 $\frac{3}{4}$
Week ending Nov. 25	700	38 $\frac{1}{4}$	38	100	104 $\frac{7}{8}$	103 $\frac{3}{4}$

THE COMING AUTOMOBILE SHOWS.

THE sixth National Automobile Show, at Madison Square Garden, New York, will begin on Saturday evening, January 13, and continue through all of the following week. The show this season will be under the auspices of the Association of Licensed Automobile Manufacturers. While the list of exhibitors has not yet been given out it is understood that all the spaces will be filled and that this show will as usual be of great interest, not only in respect of automobiles in general but also of the rubber tire production.—This show is to be followed, as usual, by an exhibition, under the same auspices, in Chicago, in the week from February 3 to 10.

The sixth annual automobile exhibition of the Automobile Club of America, to be held January 13 to 20 in the new Sixty-ninth Regiment Armory—Lexington avenue and Twenty-fifth street, New York—will embody a very complete representation of the motor car industry, including accessories of every kind. In the allotment of space 204 concerns are represented, American makers being pitted against foreign, with products listed at every price from the lowest to the highest.

TRADE NEW NOTES.

THE Stockton Rubber Co. (Stockton, New Jersey), the incorporation of which was reported recently in these pages, have begun work in reclaiming rubber. The plant was equipped under the direction of Mr. Dominic J. Price, who, during a number of years, was well known as a capable superintendent of a rubber reclaiming factory and he is in charge of the management of the new company. The Stockton plant is equipped with a view particularly to rendering production economical.

—The directors of the Rubber Goods Manufacturing Co. on November 16 declared the twenty-seventh regular quarterly dividend of 1 $\frac{3}{4}$ per cent. on the preferred shares, out of earnings, payable December 15, to shareholders of record December 5.

—The directors of the Boston Woven Hose and Rubber Co. have declared the regular semi annual dividend of \$3 per share on the preferred stock, payable December 15 to stockholders of record December 5.

—An emergency room, provided with a hospital bed and other conveniences, has been provided for the shoe department at the factory of the National India Rubber Co. (Bristol, Rhode Island), which already has proved its usefulness.

—The Buffalo Rubber Manufacturing Co. (Buffalo, New York) are understood to have doubled their sales during the past year. The company have now been in business for two years, having been incorporated in 1903, by Messrs. E. L. Toy and A. J. Commins, both formerly of the Alden Rubber Co., and now respectively president and treasurer of the Buffalo company. They manufacture various rubber specialties.

—The Merchants' Rubber Co., Limited (Berlin, Ontario), have arranged with an important jobbing house in New Zealand for the sale of their products in that colony and in Australia. The Merchants' company has grown steadily and its output was reported recently to have reached 3200 pairs of boots and shoes daily.

—Mr. Wilfred A. Joubert, who for some years was engaged practically in the exploitation of Balata in Dutch Guiana, has accepted a position with The Omo Manufacturing Co. (Middletown, Connecticut), who long have been users of Balata gum.

—New Jersey Car Spring and Rubber Co. (Jersey City) announce the opening of an office in Philadelphia—330 Drexel building—where they will submit samples and quotations on their extensive line of mechanical rubbers.

—The shareholders of the General Electric Co. are to vote December 5 on the question of increasing the capital from \$48,325,500 to \$54,162,750, to provide for the growth of the company's business. It is reported that the business of 1905 will materially exceed in volume that of last year.

—The Excelsior Hard Rubber Co. (Mineral City, Ohio) report that they are very busy. In addition to the line of hard rubber harness mountings which they have been making for some years, they are now producing hard rubber bowling balls.

—The Stamford Rubber Supply Co. (Stamford, Connecticut), have established agencies for the sale of their rubber substitutes as follows: Boston, No. 39 Tremont street, in charge of Earl E. Davidson; Trenton, New Jersey, in charge of E. B. Fulper.—*Yale Alumni Weekly* mentions Mr. Davidson as a member of the Yale class of 1900, as also was Mr. W. F. Gillespie, general manager of the Stamford company.

—The Canadian Rubber Co. of Montreal, Limited, are probably the largest buyers of advertising space in the Dominion. During the winter months the "Canadian" rubber boots and shoes are advertised in every daily and weekly newspaper in Canada, from the Atlantic to the Pacific, so that no reader can fail to know of these goods. Advertisements are printed in

three languages—English, French, and German—and an attractive pictorial display invariably forms part of the advertisement. An extensive portfolio of the advertising material prepared for the current season by the company's advertising manager, Mr. James Morris Carroll, by reason of the variety and originality involved, is most creditable to his department.

=Mr. Alexander McPherson, a representative of The Gutta-Percha and Rubber Manufacturing Co. of Toronto, Limited, has returned recently from a business tour of Australia and the neighboring colonies.

=The Hartford Rubber Works Co. have installed a coal conveying plant for the more convenient and economical supply of coal to the power house of their plant which is referred to as being notably complete and satisfactory in operation. The system is that of the Robins Conveying Belt Co. and the rubber belt used is 18 inches wide, the length of the conveyor being 255 feet between centers.

=The tire trade of The B. F. Goodrich Co. in London will be conducted hereafter under their own name, instead of Single Tube Tires, Limited, as hitherto. At the beginning of 1898 the Messrs. Goodrich, in connection with two other important American concerns, formed a company for the joint exploitation of single tube bicycle tires in Europe. The other companies in time retired, leaving the Goodrich company in sole control of Single Tube Tires, Limited, and this name has now been dropped.

=Mr. Thomas W. McDowell, general manager of the Good-year Rubber Co.'s factory at Middletown, Connecticut, has been elected a director of the First National Bank of that city, to succeed C. W. Harris, resigned.

=B. Loewenthal & Co. (Chicago and New York) dealers in old rubber, announce the admission to their firm of Mr. Herman Muchlstein, who for anumber of years has been in their employ. He will continue in charge of their Eastern branch.

=Dyson Rubber Co. (Trenton, New Jersey) have been obliged of late to run their factory day and night to handle their orders on mats, tiling, and molded goods.

=The Kansas Rubber Co. (Olathe, Kansas), incorporated under the laws of Kansas; capital, \$100,000. Object, the manufacture of mechanical rubber goods and also, THE INDIA RUBBER WORLD is informed, "for reclaiming rubber by a strictly new and improved process that will devulcanize the rubber and remove the cloth and other foreign substances without in any way injuring the rubber." Officers: I. D. Hibner, president; Ed. Ripley, vice president; Luther Moore, secretary; Ole Hibner, treasurer. Charles A. Besaw will be superintendent. The Olathe *Mirror* mentions that Mr. Besaw has begun to sell stock in the new company and contracts will be let for the buildings when the necessary capital has been subscribed.

=Poel & Arnold (New York) have opened an office for the sale of crude rubber at Akron, Ohio, which will be in charge of Mr. Frank P. Lahey, who has been connected for the past 18 years with Poel & Arnold and their predecessors, and has become thoroughly acquainted with the crude rubber business and the demands of the consuming trade. His headquarters are Rooms 405-406, Everett building, Akron.

=National Heel Co., October 7, 1905, under New York laws; capital, \$300,000. Have acquired the assets and good will of the American Heel Tread Manufacturing Co., a copartnership producing a combination rubber and leather heel under the Joseph Martin patents. The officers, elected October 11, are: Joseph Martin, president; R. W. Weller, vice president; W. A. Marlborough, secretary-treasurer. Additional directors: Thomas Martin, New York, and G. W. Farrelly, Boston. Main

office, No. 127 Duane street, and factory, Nos. 2-4 Howard street, New York; Boston office, No. 56 Lincoln street.

=Schwab & Co., extensive waste rubber merchants in Philadelphia, have decided, on account of the demand for increased space made necessary by their growing business, to remove from their present quarters, No. 615 Webster street, to more commodious premises, early in the New Year.

A NEW GUAYULE FACTORY.

THE Torreon Rubber Manufacturing Co. was incorporated October 7, 1905, under the laws of Texas, with \$150,000 capital, to extract rubber from the Guayule plant, at Torreon, state of Coahuila, Mexico. The incorporators are F. E. Dowlen, Charles Perry, J. F. Pate, and R. L. Bonnett, of Torreon, Mexico, and H. A. Erbe, General William H. Stacy, and James H. Raymond, Jr., of Austin, Texas (where the headquarters of the company are to be). Mr. Pate, mentioned above, is a department manager of Schiess y Cia. (Torreon), extensive manufacturers of mining and other machinery, and interested to a large extent in the Torreon factory for making Guayule, which, according to an interview with General Stacy in the Waco (Texas) is already in operation, shipping its product to Germany.

PERSONAL MENTION.

TWO representatives of Vereinigte Gummiwaren-Fabriken Harburg-Wien—Ingenieur Herr Franz Grubitz and Herr A. S. Guthrie—while recently in the United States favored THE INDIA RUBBER WORLD offices with a visit.

=Major J. Orton Kerbey, who will be remembered as a former American consul at Pará and for his subsequent interest in crude rubber exploitation, has written a book on the region drained by the Amazon, which is announced to appear under the title "The Land of To-morrow" from the press of The John C. Winston Co., Philadelphia.

=Mr. Ernest E. Buckleton, secretary and general manager of the Northwestern Rubber Co., Limited (Litherland, Liverpool), after spending a vacation in the United States, including a few weeks on the Pacific coast, where he formerly resided for some years, sailed for home on November 15.

BRAZIL.—The Brazilian Rubber Trust, Limited, offer to lease all or part of their holdings on the island of Marajó, near Pará, or to sell the freehold. The estate embraces 170,000 acres, and is claimed to be producing about 150 tons of Pará rubber per year. This is an English company, successor to the Rubber Estates of Pará, Limited, formed in 1898. [See THE INDIA RUBBER WORLD, February 1, 1905—page 151.]

AN ASSAM PLANTER INVESTIGATES.—Mr. Thomas More, manager of the Jokai Tea Co., of Assam, has been in Ceylon during the last week inspecting some of the well known rubber estates. He has returned from a visit to Kalutara, and to-day went up to Matale. On the 26th proximo he will leave by the P. & O. steamer for the Malay States, where, it is said, he will buy rubber land for a syndicate that has £20,000 to lay out on rubber estates.—*The Times of Ceylon*, August 19.

TESTING RUBBER GLOVES.—A correspondent of the *Electrical Review* (London) writes: "It may be of interest to some of your readers for me to say that in testing rubber gloves I have found by inflating them with air, and then putting them under water, I have discovered very many small holes in new ones which would otherwise have been impossible to find. Quite recently I had to reject 24 per cent. out of a batch of new ones."

SALE OF RUBBER LANDS.—The government in Ceylon has been selling at public auction a number of lots of crown lands said to be suitable for rubber planting. At Kalutara on August 17 the Lanka Rubber Co. purchased 203 acres of such land for 16,300 rupees [= \$5,287.72], being an average of \$26.05 gold per acre. The total sales for the day amounted to 21,236 rupees [= \$5,888.96]. One lot of 14 acres was purchased in behalf of a Colonel Cox of Scotland—a fact indicating that Kalutara's fame as a rubber country has traveled far. Mention is made of the purchase by Colombo parties, in Moneragalla, of about 619 acres of land fully planted with tea, to be devoted to rubber, for 65,000 rupees [= \$21,087], or about \$34.07 per acre.

A TELEGRAM in the Pittsburgh *Dispatch* reports the filing at Steubenville, Ohio, of eight suits, by Edward Nicholson and others of that city, against the Vera Cruz Development Co., of Canton, Ohio, and its officers, directors, and special agents, alleging that improper representation had been made to induce them to invest money in the company's "La Esmeralda" sugar and rubber plantation, in Mexico. This company was mentioned in THE INDIA RUBBER WORLD, January 1, 1902 (page 104), as having been organized under Arizona laws, in July, 1901, with \$1,000,000 capital authorized, by leading citizens of Canton, and offering to sell shares on the installment plan.

REVIEW OF THE CRUDE RUBBER MARKET.

RUBBER prices are higher for practically all the grades for which quotations are given on this page. The first four months of the Amazon rubber season (beginning July 1) showed a gain over the figures of former years for the same months, but the receipts for November were smaller than for two years past, which fact has tended to offset the hopes which prevailed earlier in the season of an increased crop in resulting lower prices. The beginning of the rubber tapping season is dependent upon conditions of weather and water, in the rivers, and larger returns early in the year do not necessarily indicate an increased production, but only that the rubber tappers have got to work at an earlier date, or that conditions of transportation have been more favorable. It cannot be too often pointed out that any increase in the production of Pará rubber must be slight and very gradual, for the reason that the working force available is at all times limited and can be added to very slowly.

From all indications the demand for rubber of all grades is well sustained and likely to continue so indefinitely. With regard to the very important demand for rubber in the footwear trade, it may be noted that weather conditions so far in the United States have not been favorable to the distribution of the product among consumers, who naturally do not invest in rubber boots and shoes until the snow flies. At the same time however, manufacturers and jobbers count on the average demand for rubber footwear every winter, and it is only in exceptional cases that a winter ends without an increased demand for goods in this class. If the winter now opening should prove to be less favorable to the rubber footwear trade than usual, the effect upon the crude rubber market would not be felt until next spring, when the amount of unsold stock came to be inventoried.

As shown on another page, the November Antwerp sale resulted in considerably larger prices being realized than were anticipated, and the effect has been shown in a definite advance in all grades of African rubbers.

Receipts at Pará (including Caucho) since the beginning of the crop season have been as follows:

	1902.	1903.	1904.	1905.
July	1290	1280	1250	1450
August	1370	1230	1260	1300
September	1670	2010	1780	2200
October	2280	2440	2820	3580
November	2650	2980	2800	22655
Total	9260	9940	9910	11,135

[* - To November 15.]

Following is a statement of prices of Pará grades, one year ago, one month ago, and on November 30—the current date:

PARÁ.	December 1, '04.	November 1, '05.	November 30.
Islands, fine, new...	125@126	115@119	119@120

Islands, fine, old.....	none here	none here	none here
Upriver, fine, new.....	129@130	121@122	122½@123½
Upriver, fine, old.....	none here	132@133	none here
Islands, coarse, new.....	72@ 73	68@ 69	71@ 72
Islands, coarse, old.....	none here	none here	none here
Upriver, coarse, new.....	96@ 97	89@ 90	90@ 91
Upriver, coarse, old.....	none here	none here	none here
Caucho (Peruvian) sheet.....	71@ 72	70@ 71	73@ 74
Caucho (Peruvian) ball.....	82@ 83	85@ 86	88@ 89

AFRICAN.

Sierra Leone, 1st quality	101@102
Massai, red.....	101@102
Benguella.....	82@ 83
Cameroon ball.....	69@ 70
Accra flake.....	26@ 27
Lopori ball, prime....	111@112
Lopori strip, prime....	94@ 95
Madagascar, pinky....	91@ 92
Ikelemba	111@112

CENTRALS.

Esmeralda, sausage....	84 @85
Guayaquil, strip.....	72 @73
Nicaragua, scrap....	82 @83
Panama, slab.....	64 @65
Mexican, scrap	82 @83
Mexican, slab	63 @64
Mangabeira, sheet....	70 @71
EAST INDIAN.	
Assam.....	95 @96
Borneo.....	44 @45

Late Pará cables quote:

	Per Kilo.	Per Kilo.
Islands, fine.	5\$200	Upriver, fine..... 6\$200
Islands, coarse.....	2\$200	Upriver, coarse..... 4\$100
Exchange, 17d.		

Last Manãos advices:

Upriver, fine.....	6\$000	Upriver, coarse.	3\$500
Exchange, 17d.			

NEW YORK RUBBER PRICES FOR SEPTEMBER (NEW RUBBER).

	1905.	1904.	1903.
Upriver, fine.....	1.29@1.32	1.09@1.21	1.00@1.10
Upriver, coarse.....	91@ 94	85@ 91	79@ 91
Islands, fine.....	1.26@1.29	1.07@1.16	97@1.08
Islands, coarse.....	69@ 72	59@ 67	60@ 70
Cametá.....	71@ 74	60@ 66	61@ 68

NEW YORK RUBBER PRICES FOR OCTOBER (NEW RUBBER).

	1905.	1904.	1903.
Upriver, fine.....	1.22@1.30	1.12@1.17	1.00@1.09
Upriver, coarse.....	89@ 93	86@ 90	83@ 91
Islands, fine.....	1.19@1.27	1.09@1.14	90@1.06
Islands, coarse.....	69@ 71	61@ 65	56@ 68
Cametá.....	70@ 72	61@ 65	56@ 67

In regard to the financial situation, Albert B. Beers (broker in India-rubber, No. 68 William street, New York) advises us as follows:

"During the first half of November there was almost no de-

BUSINESS OPPORTUNITY.

WELL known Liverpool and reputable firm of India-rubber Merchants and Importers are open to buy on commission for good American and otherwise act as required, etc. Address LIVERPOOL, care of THE INDIA RUBBER WORLD. [813]

MACHINERY WANTED.

WANTED.—Two roll Washer, 15 X 36. State whose make and where it can be examined. Address CASH, care of THE INDIA RUBBER WORLD. [873]

mand for paper, but towards the end of the month there has been some small buying by banks, rates running from $5\frac{1}{2}$ @ $6\frac{1}{4}$ per cent. according to the grade of the paper. The outlook is for a firm market during the near future."

Statistics of Para Rubber (Excluding Caucho).

	NEW YORK.				
	Fine and Medium.	Coarse.	Total 1905.	Total 1904.	Total 1903.
Stocks, September 30.	251	66 =	317	44	97
Arrivals, October	742	447 =	1189	1080	868
Aggregating	993	513 =	1506	1124	965
Deliveries, October	797	482 =	1279	1115	883
Stocks, October 31	196	31 =	227	9	82

	PARÁ.			ENGLAND.		
	1905.	1904.	1903.	1905.	1904.	1903.
Stocks, Sept. 30. tons	477	373	240	307	218	240
Arrivals, October.	3350	2660	2381	878	793	995
Aggregating.	3827	3033	2621	1185	1011	1235
Deliveries, October.	3672	2808	2276	875	960	800
Stocks, October 31	155	165	345	310	111	135

	1903.	1904.	1905.
World's visible supply, October 31.... tons	2794	1921	2370
Pará receipts, July 1 to October 31.....	7885	6611	6406
Pará receipts of Caucho, same dates.....	575	499	1484
Afloat from Pará to United States, October 31	971	736	700
Afloat from Pará to Europe, October 31.....	1131	900	810

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Notwithstanding a somewhat weaker tone for Pará, firmness prevailed at the Antwerp auction of October 25, and prices were about 2 per cent. above those of the September sale. Nearly the whole quantity offered was disposed of—470 tons out of 510.

The next large sale will take place on November 22, when 529 tons will be offered for sale. The most important lots, with brokers' estimations, are:

33	tons	Aruwimi.....	francs	9 00
34	"	Uelè strips.....		9 20
17	"	Maringa.....		5 40
15	"	Aruwimi-Equateur.....		12 40
16	"	Mongalla strips.....		10 20
30	"	Upper Congo—Yakoma.....		11 60
23	"	Batouri.....		10 50
34	"	Sangha.....		10 00
20	"	Congo M'Poko.....		11 50

C. SCHMID & CO. SUCCESEURS

Antwerp, November 17, 1935.

[CABLE advices received at New York indicate a considerable advance on the above estimations—in the case of the better grades as much as 4 @ 5 per cent.]

As indicating the proportion in which the various rubber grades figure in the Antwerp market, the following classification has been made, of the 113 lots catalogued for offer at the sale of November 22 :

Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers for carload lots, in cents per pound—show few changes since our last report. Shoes are slightly lower and bicycle tire scrap higher:

Old Rubber Boots and Shoes—Domestic	5 1/4 @ 8 1/2
Do —Foreign	7 5/8 @ 7 1/4
Pneumatic Bicycle Tires	6 1/4 @ 6 1/2
Solid Rubber Wagon and Carriage Tires	8 1/2 @ 5 5/8
White Trimmed Rubber	9 1/2 @ 9 3/4
Heavy Black Rubber	5 3/4 @ 6
Air Brake Hose	3 3/4 @ 3 3/8
Fire and Large Hose	3 @ 3 1/4
Garden Hose	2 1/2 @ 2 1/2
Matting	1 1/4 @ 1 1/4

	Kilograms.		Kilograms.
Congo.....	5,205	Upper Congo Batouri....	23,260
Congo Kouango.....	3,301	Loango.....	578
Congo Kasai (red).....	50,867	Guinea niggers.....	3,712
Congo Kasai (black).....	10,122	Guinea twists.....	475
Congo Djuma.....	20,766	Ivory Coast.....	1,860
Congo Aima.....	3,044	Congo Français.....	3,040
Congo Sangha.....	41,658	Gabon.....	1,500
Congo Wamba.....	38,002	Congo M'Poko.....	20,300
Lower Congo.....	76	Ogoue N'Gounie.....	2,390
Upper Congo.....	58,389	Madagascar East Coast...	6,300
Upper Congo Lopori.....	502	Madagascar Majunga.....	450
Upper Congo Lopori I....	1,154	Madagascar Majunga II..	3,000
Upper Congo Lopori II...	7,725	Madagascar Majunga III..	1,900
Upper Congo Maringa...	17,116	East African.....	2,500
Upper Congo Isangi....	289	Tonkin.....	345
Upper Congo Uélé.....	24,344	Ceylon.....	731
Upper Congo Aruwimi....	70,148	Patward cure.....	307
Up. Congo Lake Leopold II	18,116	Brazil (Jéqueie).....	7,317
Upper Congo Ruki.....	1,000	Bahia Mangabeira.....	26
Upper Congo Monboyo...	5,470		
Upper Congo Lomami....	11,668		
Upper Congo Mongalla...	25,400	Total.....	303,516

ANTWERP RUBBER STATISTICS FOR OCTOBER.

DETAILS.	1905.	1904	1903.	1902.	1901.
Stocks, Sept. 30. <i>kilos</i>	566,735	804,482	421,858	456,711	896,143
Arrivals in October.	555,920	363,490	944,274	340,598	234,035
Congo sorts,	331,111	233,945	707,219	366,228	191,178
Other sorts	174,808	129,545	81,444	34,370	43,457
Aggregating...	1,122,655	1,167,972	1,366,132	797,309	1,130,778
Sales in October...	568,172	457,112	459,495	447,171	864,673
Stocks, Oct. 31...	554,483	710,866	876,637	350,138	266,105
Arrivals since Jan. 1.	4,615,168	4,845,311	4,726,430	4,369,518	4,960,761
Congo sorts	3,544,297	3,899,454	4,271,093	4,031,632	4,574,474
Other sorts	1,071,872	945,857	455,437	337,886	386,287
Sales since Jan. 1...	4,602,046	4,745,351	4,507,898	4,434,089	5,308,605

RUBBER ARRIVALS AT ANTWERP.

OCTOBER 31.—By the *Leopoldville*, from the Congo:

Bunge & Co.....(Société Général Africaine)	kilos	90 000
Do		21,000
Do .....(Chemins de fer Grand Lacs)		5,000
Do .....(Société A B I R)		30,000
Société Coloniale Anversoise.....		2,000
Do .....(Sud Kamerun)		3,000
Do .....(Belge du Haut Congo)		7,000
Do .....(Cie. de Louani)		11,000
L. & W. Van de Velde.....(Cie. du Kasai)		59,000
Do		5,000
M. S. Cols.....(Alima)		3,000
Comptoir des Produits Coloniaux(Ekela Kadei Sangha)		28,000
Charles Dethier.....(Société La "M'Poko")		8,000
Cie. Commerciale des Colonies....(La Haut Sangha)		30,000
		302,000

Bordeaux.

PRICES [FRANCS PER KILO] NOVEMBER 10.

Conakry niggers	11.15 @ 11.55	Lahou cakes	8. @ 8.25
Soudan niggers	10.50 @ 10.60	Bassam lumps	6. @ 6.20
Soudan twists	9.50 @ 10.	Bassam niggers	8.50 @ 9.
Lahou twists	9.40 @ 9.50	Mexican	9.25 @ 9.75
Casamance A.	8. @ 8.10	Colombian scrap	8.50 @ 9.
Casamance A. M.	7. @ 7.30	ManiCoba	8.80 @ 9.50

R. HENRY.

PARITY TABLE OF RUBBER PRICES.

PER POUND.			PER KILO.		PER POUND.			PER KILO.	
CENTS.	S.	D.	FRAN.	MARKS.	CENTS.	S.	D.	FRAN.	MARKS.
65	2	81 $\frac{1}{2}$	7.42	6.02	100	4	13 $\frac{1}{2}$	11.43	9.26
70	2	10 $\frac{1}{2}$	8.00	6.48	105	4	3 $\frac{1}{2}$	12.00	9.72
75	3	1	8.57	6.95	110	4	6 $\frac{1}{2}$	12.51	10.10
80	3	3 $\frac{1}{2}$	9.14	7.41	115	4	8 $\frac{1}{2}$	13.14	10.65
85	3	5 $\frac{1}{2}$	9.70	7.87	120	4	11 $\frac{1}{2}$	13.70	11.12
90	3	8 $\frac{1}{2}$	10.29	8.33	125	5	15 $\frac{1}{2}$	14.28	11.58
95	3	11 $\frac{1}{2}$	10.84	8.80	130	5	41 $\frac{1}{2}$	14.85	12.04

London.

EDWARD TILL & Co. report stocks [November 1]:

	1905.	1904.	1903.
LONDON { Pará sorts..... tons —			
Borneo..... 43	30	20	
Assam and Rangoon..... 50	4	4	
Penang..... 345	—	—	
Other sorts..... 197	498	199	
Total..... 635	532	223	
LIVERPOOL { Pará..... 311	111	435	
Caucho..... 59	140	51	
Other sorts..... 367	524	476	
Total, United Kingdom..... 1372	1307	1185	
Total, October 1..... 1489	1606	860	
Total, September 1..... 1694	1508	1504	

PRICES PAID DURING OCTOBER.

	1905.	1904.	1903.
Pará fine, hard.. 5/ 2½ @ 5/ 2½ 4/ 9½ @ 4/ 11¾ 4/ 2½ @ 4/ 8			
Do soft..... 5/ 2 @ 5/ 5½ 4/ 8½ @ 4/ 10½ 4/ 0½ @ 4/ 7½			
Negroheads, scrappy.. 3/ @ 3/ 10¼ 3/ 8½ @ 3/ 9½ 3/ 5 @ 3/ 8½			
Do Cametá.. 2/ 11¾ @ 3/ 1 2/ 8¼ @ 2/ 9¾ 2/ 5¾ @ 2/ 10¼			
Bolivian..... 5/ 2½ @ 5/ 5½ 4/ 10 @ 4/ 11			No sales
Caucho, ball..... 3/ 8¾ @ 3/ 9¼ 3/ 3 @ 3/ 5 3/ 5 @ 3/ 7½			
Do slab..... 3/ 1½ @ 3/ 2 2/ 9½ @ 2/ 10½ 2/ 9 @ 2/ 10½			
Do tails..... 3/ 3¼ 2/ 9 @ 3/			No sales

Liverpool.

EDMUND SCHLÜTER & Co. report [October 31]:

Pará Rubber.—The market has been moderately active during the month, without much pressure to sell, but at gradually lower prices following the large receipts at Manáos and Pará. The increase of about 20 per cent. in the supplies during the first four months of the season is in excess of actual requirements, and if continued in evenly smaller proportions will tend to bring about a further decline.

WORLD'S VISIBLE SUPPLY OF PARÁS, OCTOBER 31.

	1905.	1904.	1903.	1902.	1901.
Tons.....	2970	2207	2457	3049	2987
Prices, hard fine.....	5/2½	5/-	4/2½	3/3¼	3/6¼

LIVERPOOL STOCKS OF AFRICAN RUBBER, OCTOBER 31.

	1905	1904	1903	1902	1901
246	547	1899	547		
401	673	1898	494		
235	789	1897	337		

Rubber Receipts at Manaos.

DURING October and four months of the crop season for three years [courtesy of Messrs. Scholz & Co.]:

FROM—	OCTOBER.			JULY-OCTOBER.		
	1905.	1904.	1903.	1905.	1904.	1903.
Rio Purús—Acre..... tons	706	288	215	1873	1197	1101
Rio Madeira	152	361	254	938	1035	1009
Rio Juruá.....	301	190	158	617	405	414
Rio Javary—Iquitos. . .	443	575	581	1007	856	766
Rio Solimões.	120	72	99	330	114	183
Rio Negro.....	6	15	2	12	18	17
Total.....	1728	1501	1309	4777	3623	3490
Caucho.....	129	116	87	527	334	428
Total.....	1857	1617	1396	5304	3957	3918

Pará.

KANTHACK & Co. report [November 11]:

The late dullness prevailing at the consuming centers was to some extent reflected in the attitude of this market by want of animation, but although business was not active, its volume was quite satisfactory, comprising nearly all arrivals. Values which on various occasions threatened to give way were thereby kept fairly firm and have recently improved in consequence of better news from the home markets.

REFERRING to the loss of 210 tons of rubber by the sinking of the steamer *Cyril* on the Amazon [see THE INDIA RUBBER WORLD, November 1, 1905—page 45], Messrs. Booth & Co. advise us: "We are advised from Liverpool, under date of November 1, that they have succeeded in salvaging 254 cases of *Cyril's* rubber and also loose rubber equal

to about 30 cases in volume."—New York Commercial Co. report: "We received a cable from our Pará house on the 8th instant advising that of the *Cyril* lost rubber there were 100 tons of Rubber recovered—that is, fine, medium, and coarse—and 16 tons of Caucho, and these 116 tons were being forwarded to Europe. This leaves a shortage of 94 tons, which will probably be recovered later."

Ceylon Exports (Plantation Rubber).

DETAILS—BY WEEKS.

POUNDS.	POUNDS.
January 1 to Aug. 21..... 69,047	Week ending Oct. 9..... 4,728
Week ending Aug 28..... 3,789	Week ending Oct. 16..... 10,403
Week ending Sept. 4..... 1,752	Week ending Oct. 23..... 2,830
Week ending Sept. 11..... 4,321	
Week ending Sept. 18..... 5,499	Total to Oct. 23..... 107,056
Week ending Sept. 25..... 2,602	Same period, 1904..... 52,612
Week ending Oct. 2..... 2,085	Same period, 1903..... 32,237

DESTINATION.

Great Britain..... 77,625	United States..... 6,504
Germany..... 16,034	Australia..... 1,152
Belgium..... 5,595	Holland..... 125

Gutta-Percha.

THE latest report by the German consul at Singapore reports the movement of Gutta-percha in that market as follows, from which it may be inferred that the volume of the commodity increased very considerably while in store there [1 pikul=133½ pounds]:

	1903	1904
Imports..... pikuls	35,695	12,666.9
Exports.....	25,661	27,373.9

Excess of Exports..... 9,966 14,707.

	1904
Value of Imports..... [in Straits Dollars]	\$1,699,640
Value of Exports.....	3,003,022

Excess Value Exports..... \$1,303,382

IMPORTS FROM PARÁ AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

November 3.—By the steamer *Justin*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
New York Commercial Co.	176,400	23,700	84,000	11,700=	295,800
Poel & Arnold.....	131,800	25,500	121,600	600=	279,500
A. T. Morse & Co.....	95,200	14,600	73,400	.. =	183,200
Neale & Co.....	..	..	66,300	.. =	66,300
General Rubber Co.....	31,000	4,400	13,300	.. =	48,700
Hagemeyer & Brunn.....	18,500	1,400	7,100	.. =	27,000
Constantine P. San Tos..	16,900	1,200	3,900	.. =	22,000
Lionel Hagenaers & Co..	8,000	..	5,400	.. =	13,400
Edmund Reeks & Co....	5,800	300	1,900	.. =	8,000
Total.....	483,600	71,100	376,900	12,300=	943,900

November 15.—By the steamer *Cearense*, from Manáos and Pará:

New York Commercial Co.	226,400	31,400	101,600	1,600=	361,000
Poel & Arnold.....	205,600	51,900	95,700	1,400=	354,600
A. T. Morse & Co.....	85,400	6,300	40,800	10,500=	143,000
General Rubber Co.....	36,500	3,600	47,700	300=	88,100
Edmund Reeks & Co....	44,600	2,000	23,100	.. =	69,700
Neale & Co.....	..	..	32,200	.. =	32,200
Lionel Hagenaers & Co..	23,700	..	2,200	.. =	25,900
Hagemeyer & Brunn.....	..	..	4,800	.. =	4,800

Total..... 622,200 95,200 348,100 13,800=1,079,300

November 24.—By the steamer *Grangense*, from Manáos and Pará:

Poel & Arnold.....	139,900	33,100	43,600	2,400=	219,000
New York Commercial Co.	103,600	13,500	50,400	3,600=	171,100
A. T. Morse & Co.....	100,200	24,800	25,800	800=	151,600
General Rubber Co.....	28,300	7,500	45,200	.. =	81,000
Neale & Co.....	..	..	65,700	.. =	65,700
Hagemeyer & Brunn.....	15,600	1,900	39,500	.. =	57,000
Constantine P. San Tos..	14,200	5,000	6,700	300=	26,200
Edmund Reeks & Co....	15,700	3,600	1,700	.. =	21,000
Lionel Hagenaers & Co..	6,700	..	1,200	.. =	7,900

Total..... 424,200 89,400 279,800 7,100= 800,500

[NOTE.—The steamer *Basil*, from Pará, is due at New York, December 4, with 4½ tons Rubber.]

PARA RUBBER VIA EUROPE.

OCT. 30.—By the <i>Boric</i> =Liverpool:	
Poel & Arnold (Cauchy).....	70,000
Nov. 13.—By the <i>Maracas</i> =Ciudad Bolivar:	
Thebaud Brothers (Fine).....	2,000
Thebaud Brothers (Coarse).....	2,000 4,000
Nov. 17.—By the <i>Havana</i> =Mollendo:	
Boston & Bolivia Co. (Fine).....	2,000
Boston & Bolivia Co. (Coarse).....	1,500
A. D. Hitch & Co. (Fine).....	1,500
A. D. Hitch & Co. (Coarse).....	500 5,500
Nov. 20.—By the <i>Coronia</i> =Liverpool:	
Poel & Arnold (Coarse).....	70,000
Nov. 22.—By the <i>Georgie</i> =Liverpool:	
Poel & Arnold (Coarse).....	7,000

OTHER ARRIVALS AT NEW YORK.

CENTRALS.

OCT. 25.—By the <i>Sarnia</i> =Colombia:	
G. Amsinck & Co.....	5,500
Andreas & Co.....	2,000
Schulte & Giescher.....	1,500
American Trading Co.....	500
Isaac Brandon & Bros.....	500
Roldan & Van Sickle.....	500 10,500
OCT. 25.—By the <i>Excelsior</i> =New Orleans:	
Eggers & Heinlein.....	3,500
OCT. 28.—By the <i>Finance</i> =Colon:	
Hirzel, Feltman & Co.....	19,000
G. Amsinck & Co.....	4,900
Lawrence Johnson & Co.....	3,300
Dumarest Bros. & Co.....	3,500
A. Santos & Co.....	2,700
Roldan & Van Sickle.....	2,600
Isaac Brandon & Bros.....	1,400
Mecke & Co.....	600
Mann & Emdon.....	700 38,700
OCT. 28.—By the <i>El Norte</i> =Galveston:	
Continental Mexican Co.....	16,300
OCT. 28.—By the <i>Seguranca</i> =Mexico:	
H. Marquardt & Co.....	1,500
E. Steiger & Co.....	1,000
W. Louza & Co.....	700 3,200
Nov. 2.—By the <i>Graf Waldersee</i> =Hamburg:	
General Rubber Co.....	20,000
Nov. 2.—By the <i>Grenada</i> =Ciudad Bolivar:	
Thebaud Brothers.....	33,000
Frith, Sands & Co.....	30,000
Middieton & Co.....	2,500 65,500
Nov. 2.—By the <i>Alleghany</i> =Colombia:	
Gould & Co.....	2,500
A. M. Capens Sons.....	2,000
Isaac Brandon & Bros.....	1,500
G. Amsinck & Co.....	1,500
Banco de Exportasos.....	800
American Trading Co.....	1,000
Henry Sons & Co.....	1,000
D. A. De Lima & Co.....	700
Lauman & Kemp.....	600
Pedro A. Lopez.....	600 12,200
Nov. 3.—By the <i>Rio Grande</i> =Mobile:	
A. T. Morse & Co.....	6,500
Nov. 4.—By the <i>Orizaba</i> =Tampico:	
European Account.....	56,000
Nov. 4.—By the <i>Fuc tan</i> =Mexico:	
Harburger & Stack.....	3,300
H. Marquardt & Co.....	1,500
Frederick Probst & Co.....	1,000
E. Steiger & Co.....	700
American Trading Co.....	500 7,000
Nov. 6.—By the <i>Advance</i> =Colon:	
Hirzel, Feltman & Co.....	16,500
Piza, Nephews & Co.....	1,300
Lawrence Johnson & Co.....	500 18,300
Nov. 6.—By the <i>Canning</i> =Bahia:	
J. H. Rossbach & Bros.....	25,000
American Commercial Co.....	6,500
Hirsch & Kaiser.....	5,000
George A. Alden & Co.....	2,200
Lawrence Johnson & Co.....	1,500 40,200
Nov. 9.—By the <i>Alamo</i> =Mobile:	
Manhattan Rubber Mfg. Co.....	2,000
A. T. Morse & Co.....	1,500 3,500
Nov. 9.—By the <i>Carib II</i> =Truxillo:	
Eggers & Heinlein.....	15,000
H. W. Peabody & Co.....	2,000
G. Amsinck & Co.....	1,100

CENTRALS—Continued.

Forthing & DeLeon.....	1,000
Graham, Hinkley & Co.....	500 19,200
Nov. 9.—By the <i>Siberia</i> =Colombia:	
G. Amsinck & Co.....	1,600
Roldan & Van Sickle.....	1,200
Lindo Brothers.....	1,200
A. D. Straus & Co.....	500
Kunhardt & Co.....	500
American Trading Co.....	600 5,000
Nov. 10.—By the <i>Esperanza</i> =Mexico:	
Harburger & Stack.....	2,500
Strube & Utze.....	1,500
E. Steiger & Co.....	1,500
Graham, Hinkley & Co.....	1,600
Thebaud Brothers.....	700 7,200
Nov. 10.—By the <i>Mexico</i> =Colon:	
Lawrence Johnson & Co.....	9,200
G. Amsinck & Co.....	5,000
Hirzel, Feltman & Co.....	4,000
E. B. Strout.....	3,800
Roldan & Van Sickle.....	2,400
Dumarest Bros. & Co.....	2,000
American Trading Co.....	1,600
J. A. Medina & Co.....	1,600
Silva, Bussenius & Co.....	700
A. Santos & Co.....	700 31,000
Nov. 14.—By the <i>Lampasas</i> =Mobile:	
G. Amsinck & Co.....	2,600
A. T. Morse & Co.....	1,500
E. B. Strout.....	500 4,000
Nov. 14.—By the <i>Altai</i> =Costa Rica:	
Isaac Brandon & Bros.....	2,000
Commercial Cortez.....	2,000
Roldan & Van Sickle.....	1,200
A. D. Straus & Co.....	800
Banco de Exportasos.....	500 6,500
Nov. 15.—By the <i>City of Washington</i> =Mexico:	
Harburger & Stack.....	1,500
American Trading Co.....	500
European Account.....	50,000 52,000
Nov. 16.—By the <i>Cameous</i> =Bahia:	
Hirsch & Kaiser.....	17,000
American Commercial Co.....	6,000 23,000
Nov. 16.—By the <i>El Norte</i> =Galveston:	
Continental Mexican Co.....	18,500
Nov. 17.—By the <i>Havana</i> =Colon:	
Hirzel, Feltman & Co.....	17,000
W. R. Grace & Co.....	3,700 20,700
Nov. 18.—By the <i>Vigilancia</i> =Mexico:	
H. Marquardt & Co.....	2,200
Thebaud Brothers.....	2,000 4,200
Nov. 20.—By the <i>El Rio</i> =Galveston:	
Continental Mexican Co.....	13,500
Nov. 20.—By the <i>Tennyson</i> =Bahia:	
Hirsch & Kaiser.....	17,000
American Commercial Co.....	3,500
Lawrence Johnson & Co.....	3,500 24,000
Nov. 21.—By the <i>Rio Grande</i> =Mobile:	
G. Amsinck & Co.....	13,500
Manhattan Rubber Mfg. Co.....	9,000
A. T. Morse & Co.....	8,700
A. N. Rotholz.....	8,000 39,000
Nov. 22.—By the <i>Sarnia</i> =Colombia:	
Daniel Javours Bros.....	2,400
Banco de Exportasos.....	1,500
Kunhardt & Co.....	1,100
Mecke & Co.....	700
Commercial Cortez.....	600
G. Amsinck & Co.....	500
Isaac Brandon & Bros.....	500 7,400

AFRICANS.

OCT. 24.—By the <i>Finland</i> =Antwerp:	
George A. Alden & Co.....	15,000
OCT. 25.—By the <i>Caronia</i> =Liverpool:	
General Rubber Co.....	11,500
A. W. Brunn.....	9,000 20,500
OCT. 28.—By the <i>Ryndam</i> =Rotterdam:	
Poel & Arnold.....	8,600
OCT. 27.—By the <i>Prisma</i> =Hamburg:	
Poel & Arnold.....	22,500
General Rubber Co.....	19,000
A. T. Morse & Co.....	7,000
George A. Alden & Co.....	4,000 62,500
OCT. 28.—By the <i>Lucania</i> =Liverpool:	
A. T. Morse & Co.....	10,000

AFRICANS—Continued.

OCT. 28.—By the <i>Peninsular</i> =Lisbon:	
General Rubber Co.....	77,500
OCT. 28.—By the <i>Lorraine</i> =Havre:	
General Rubber Co.....	20,000
A. T. Morse & Co.....	11,000 34,000
OCT. 28.—By the <i>Frederic</i> =Bordeaux:	
A. T. Morse & Co.....	17,000
OCT. 30.—By the <i>Boric</i> =Liverpool:	
F. R. Muller & Co.....	22,000
A. W. Brunn.....	1,500 23,500
OCT. 30.—By the <i>Gasconne</i> =Havre:	
A. T. Morse & Co.....	15,000
Nov. 2.—By the <i>Graf Waldersee</i> =Hamburg:	
A. T. Morse & Co.....	48,000
George A. Alden & Co.....	11,000
Poel & Arnold.....	1,000 61,000
Nov. 3.—By the <i>Cedric</i> =Liverpool:	
General Rubber Co.....	11,000
George A. Alden & Co.....	11,000
A. T. Morse & Co.....	7,000
Earle Brothers.....	2,000 31,000
Nov. 6.—By the <i>Etruria</i> =Liverpool:	
George A. Alden & Co.....	20,000
A. W. Brunn.....	1,500 21,500
Nov. 8.—By the <i>Kroonland</i> =Antwerp:	
Poel & Arnold.....	50,000
Joseph Cantor.....	38,000
Robinson & Tallman.....	24,000
A. T. Morse & Co.....	16,000
General Rubber Co.....	2,500 130,500
Nov. 8.—By the <i>Molke</i> =Hamburg:	
Poel & Arnold.....	13,500
A. T. Morse & Co.....	13,500
Rubber Trading Co.....	7,000 34,000
Nov. 9.—By the <i>Victorian</i> =Liverpool:	
A. T. Morse & Co.....	11,000
F. R. Muller & Co.....	10,000 21,000
Nov. 10.—By the <i>Baltic</i> =Liverpool:	
Poel & Arnold.....	22,000
A. W. Brunn.....	18,000
A. T. Morse & Co.....	6,500 46,500
Nov. 11.—By the <i>Campania</i> =Liverpool:	
A. T. Morse & Co.....	25,000
George A. Alden & Co.....	2,000 27,000
Nov. 13.—By the <i>Zeeland</i> =Antwerp:	
George A. Alden & Co.....	175,000
Poel & Arnold.....	33,500
Robinson & Tallman.....	22,500
Rubber Trading Co.....	13,500 244,500
Nov. 14.—By the <i>Civic</i> =Liverpool:	
General Rubber Co.....	30,000
Poel & Arnold.....	6,000
George A. Alden & Co.....	3,500 39,500
Nov. 14.—By the <i>Potsdam</i> =Rotterdam:	
A. T. Morse & Co.....	16,000
Nov. 18.—By the <i>Bataria</i> =Hamburg:	
George A. Alden & Co.....	15,000
Nov. 20.—By the <i>Caronia</i> =Liverpool:	
George A. Alden & Co.....	24,000
A. T. Morse & Co.....	11,500 35,500
Nov. 22.—By the <i>Finland</i> =Antwerp:	
Poel & Arnold.....	22,500
Nov. 22.—By the <i>Oceanic</i> =Liverpool:	
A. T. Morse & Co.....	11,500
A. W. Brunn.....	5,000 16,500
EAST INDIAN.	
OCT. 25.—By the <i>Caronia</i> =Liverpool:	
Poel & Arnold.....	11,000
OCT. 30.—By the <i>New York</i> =London:	
Poel & Arnold.....	13,000
H. W. Peabody & Co.....	2,000 15,000
Nov. 3.—By the <i>Indrawadi</i> =Singapore:	
Winter & Smillie.....	17,000
Heabler & Co.....	20,000
A. T. Morse & Co.....	11,000
Robert Brans & Co.....	11,500 69,500
Nov. 8.—By the <i>Shinosa</i> =Singapore:	
Pierre T. Batis.....	7,000
F. R. Muller & Co.....	5,500 12,500

EAST INDIAN—Continued.

Nov. 8. —By the <i>Trutels</i> =Colombo:	
George A. Alden & Co.	5,000
Nov. 8. —By the <i>Yeddo</i> =Singapore:	
Poel & Arnold	88,000
A. T. Morse & Co.	17,000 105,000
Nov. 13. —By the <i>Minnetonka</i> =London:	
George A. Alden & Co.	13,500
Poel & Arnold	2,500
A. T. Morse & Co.	2,000 18,000

GUTTA-JELUTONG.

Oct. 24. —By the <i>Verona</i> =Singapore:	
Heabler & Co.	100,000
Winter & Smillie	56,000 156,000
Nov. 3. —By the <i>Indrawadi</i> =Singapore:	
Robert T. Branss & Co.	220,000
Heabler & Co.	210,000
George A. Alden & Co.	170,000 590,000

Nov. 8. —By the <i>Yeddo</i> =Singapore:	
Poel & Arnold	155,000
Pierre T. Betts	60,000 215,000
Nov. 8. —By the <i>Shimosa</i> =Singapore:	
F. R. Muller & Co.	190,000
Pierre T. Betts	170,000 360,000

GUTTA-PERCHA AND BALATA.

	POUNDS.
Oct. 27. —By the <i>Pretoria</i> =Hamburg	
To Order	6,500
Nov. 2. —By the <i>Graf Waldersee</i> =Hamburg:	
To Order	10,000
Nov. 3. —By the <i>Indrawadi</i> =Singapore:	
Heabler & Co.	25,000
Nov. 8. —By the <i>Shimosa</i> =Singapore:	
Winter & Smillie	11,500
Nov. 8. —By the <i>Batavia</i> =Hamburg:	
To Order	6,500
Heabler & Co.	2,500 9,000

GUTTA-PERCHA AND BALATA—Continued.

BALATA.

Oct. 28. —By the <i>Lucania</i> =Liverpool:	
Henry A. Gould Co.	5,500
Oct. 30. —By the <i>Minnehaha</i> =London:	
Earle Brothers	9,000
Nov. 4. —By the <i>Prins Willem</i> =Surinam:	
European Account	15,000
G. Amsinck & Co.	7,000 22,000
Nov. 13. —By the <i>Minnetonka</i> =London:	
F. R. Muller & Co.	5,500
A. W. Brunn	2,000 7,500
Nov. 13. —By the <i>Maracas</i> =Cuidad Bolivar:	
Middleton & Co.	11,500
Thebaud Brothers	6,000
European Account	95,000 112,500

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—OCTOBER.

	POUNDS.	VALUE.
Imports:		
India-rubber	4,601,407	\$3,664,572
Gutta-percha	38,591	15,144
Gutta-jelutong (Pontianak)	1,714,039	60,498
Total	6,354,037	\$3,740,214

	POUNDS.	VALUE.
Exports:		
India-rubber	59,056	\$ 63,932
Reclaimed rubber	278,859	32,591
Rubber Scrap Imported	1,667,656	\$113,003

BOSTON ARRIVALS.

	POUNDS.
SEPT. 5. —By the <i>Lancastrian</i> =London:	
George A. Alden & Co.—East Indian	4,206
SEPT. 5. —By the <i>Republic</i> =Liverpool:	
Poel & Arnold—African	11,343

BOSTON ARRIVALS—Continued.

SEPT. 7. —By the <i>Robenfels</i> =Calcutta:	
George A. Alden & Co.—East Indian	1,201
SEPT. 8. —By the <i>Bethania</i> =Hamburg:	
George A. Alden & Co.—East Indian	2,314
SEPT. 13. —By the <i>Bohemian</i> =Liverpool:	
To Order—East Indian*	20
SEPT. 13. —By the <i>Cystrian</i> =Liverpool:	
George A. Alden & Co.—African	2,158
SEPT. 14. —By the <i>Cymric</i> =Liverpool:	
To Order—East Indian*	620
SEPT. 16. —By the <i>Arabic</i> =Liverpool:	
J. E. Odell—African	8,866
SEPT. 19. —By the <i>Arabic</i> =Liverpool:	
To Order—East Indian*	252
SEPT. 21. —By the <i>Canadian</i> =Liverpool:	
To Order—East Indian*	280
SEPT. 21. —By the <i>Sylvania</i> =Liverpool:	
To Order—East Indian*	291
SEPT. 21. —By the <i>Iverna</i> =Liverpool:	
To Order—East Indian*	158
SEPT. 20. —By the <i>Kronland</i> =Antwerp:	
George A. Alden & Co.—African	42,870
[Reported in New York arrivals September 11]	
SEPT. 26. —By the <i>Deonian</i> =Liverpool:	
To Order—East Indian*	294
SEPT. 27. —By the <i>Deonian</i> =Liverpool:	
George A. Alden & Co.—Central	22,872
SEPT. 30. —By the <i>Sylvania</i> =Liverpool:	
To Order—East Indian*	179
Total	97,504

[Value, \$60,498.]

* [NOTE.—These items are understood to have been mainly samples of Ceylon or Straits plantation rubber.]

OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
September, 1905	4,967,194	304,173	4,663,021
January-August	44,709,074	2,052,652	42,656,422
Nine months, 1905	49,676,268	2,356,825	47,319,443
Nine months, 1904	44,553,345	2,586,325	41,967,020
Nine months, 1903	42,898,398	2,553,107	40,345,291

GERMANY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
September, 1905	4,104,980	2,369,180	1,735,800
January-August	29,686,140	10,169,720	19,516,420
Nine months, 1905	33,791,120	12,538,900	21,252,220
Nine months, 1904	26,602,840	7,302,900	19,299,940
Nine months, 1903	25,848,020	8,873,040	16,974,980

FRANCE.*

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
September, 1905	1,009,360	1,402,060	[139,700]
January-August	18,173,540	10,785,580	7,387,960
Nine months, 1905	19,182,900	12,190,640	6,992,260
Nine months, 1904	15,903,360	8,638,740	7,264,620
Nine months, 1903	11,754,160	6,820,600	4,933,560

BELGIUM.†

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
September, 1905	1,157,074	1,236,272	[145,598]
January-August	11,765,930	8,256,674	3,509,256
Nine months, 1905	12,923,304	9,442,046	3,481,258
Nine months, 1904	13,849,457	11,007,046	2,842,411
Nine months, 1903	11,405,094	9,326,697	2,078,397

GREAT BRITAIN.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
September, 1905	4,177,264	2,513,952	1,663,312
January-August	42,288,960	23,085,440	19,203,520
Nine months, 1905	46,466,224	25,599,392	20,866,832
Nine months, 1904	41,722,016	24,239,158	17,482,858
Nine months, 1903	30,240,168	28,000,592	2,239,576

ITALY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
September, 1905	84,700	4,400	80,300
January-August	1,159,400	218,020	941,380
Nine months, 1905	1,244,100	222,420	1,021,680
Nine months, 1904	1,128,160	77,440	1,050,720
Nine months, 1903	1,117,820	123,420	994,400

AUSTRIA-HUNGARY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
September, 1905	287,100	440	286,660
January-August	1,988,580	21,340	1,967,240
Nine months, 1905	2,275,680	21,780	2,253,900
Nine months, 1904	2,095,940	16,280	2,079,660
Nine months, 1903	2,137,080	20,460	2,116,620

NOTE.—German statistics include Gutta-percha, Balata, old (waste) rubber, and substitutes. British figures include old rubber. French, Austrian, and Italian figures include Gutta percha. The exports from the United States embrace the supplies for Canadian consumption.

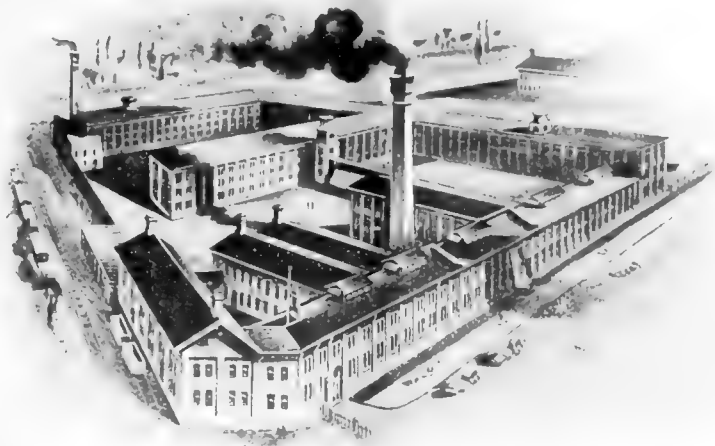
* General Commerce. † Special Commerce. ‡ Net Export.

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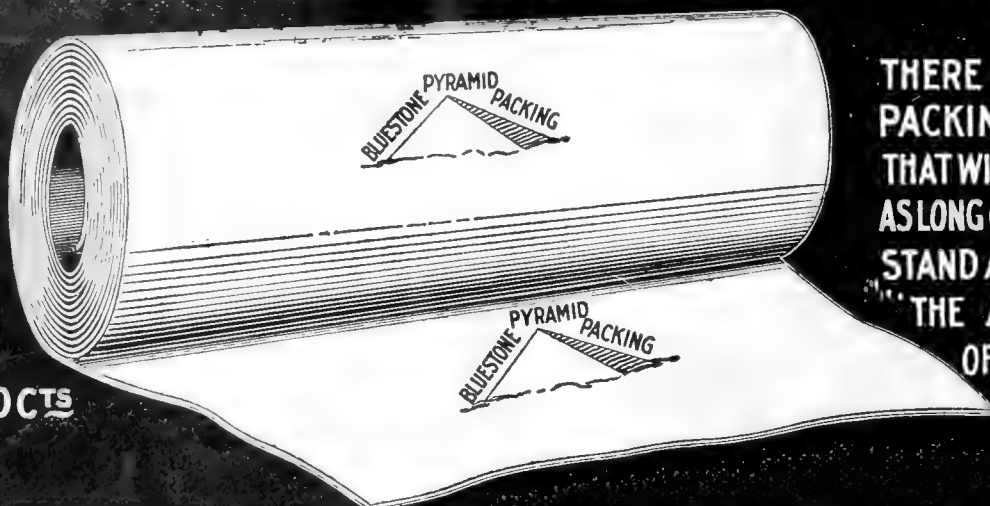
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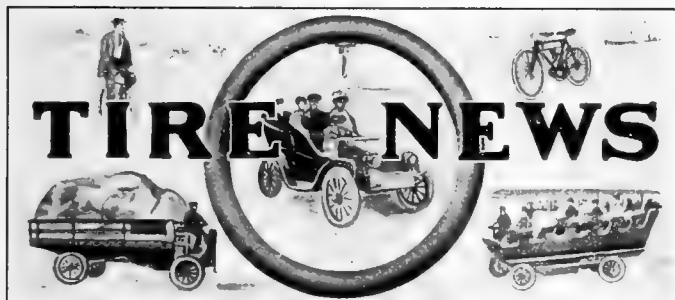
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THE STATE OF THE TRADE.

IT is the custom of many trade journals at this season to present a review for the year just closed of business conditions in their respective fields, with perhaps an attempt to outline the course of trade for some time ahead. Such summaries often are of interest, and doubtless serve a good purpose, just as does the periodical balancing of books or taking account of stock by the individual merchant or manufacturer. But the close of a calendar year presents no special reason for attempting a review of the India-rubber industry, which is diversified in so many branches, with business years terminating at different dates. The rubber shoe season, for example, is at its mid-leaf about January 1, and the results of the winter's trading impossible to estimate until the close of winter.

At the same time, the interruption in business which comes every year with the holiday week gives to every business man an opportunity to consider with what measure of success his efforts during the year have been crowned. If a comparison of all branches of trade, one with another, could be made, it doubtless would be found that rubber has more than held its own for the past twelvemonth, if, indeed, it has not done better than many other branches, though this has been a period of general prosperity in the United States and in the greater part of the commercial world.

Never before has the demand for rubber goods been so great, or the consumption so large. Never before has rubber entered on an important scale into so many uses. Many manufacturers, it is true, have felt handicapped by higher prices for raw materials than in the past, but raw rubber has been high priced because of an unprecedented call for rubber goods, and when a pressing demand exists for manufactures the producer is better able to dictate prices than when the market is over supplied. Still, there are limits to prices which the rubber manufacturer cannot overleap, and the situation of late has constrained him to put forth his best efforts to improve his processes and methods, to lessen the cost of products, to the end that marked advancement is being made in the industry. This has been distinctly a period of progress in rubber working, such as does not occur in periods of dullness.

The situation in the rubber industry, to all appearances, is healthful; on the whole the business continues profitable; there is every indication that the new year will duplicate the record of that just closed. Every sign for the future is encouraging—for the energetic, enterprising, progressive rubber manufacturer, who has mastered his business, is properly equipped with capital, and possesses good judgment. These qualifications should command success in any business, but nowhere, we take it, more certainly than in rubber at this period.

RUBBER SLAVERY IN THE CONGO.

THE high commission appointed by the king of the Belgians to inquire into conditions in the Congo Free State has produced a report which, while admitting that in

some cases natives have been treated with harshness and injustice, strives to absolve the state authorities from direct responsibility for any wrong. No doubt many of the reports of cruelty have been exaggerated; it is difficult anywhere to gain the exact facts in regard to any occurrence, and this difficulty is increased when so many persons, remote from the Congo regions, each biased by some particular interest—philanthropic, political, or commercial—have been ready to lend a ready ear to every rumor that seemed to support their preconceived views with regard to conditions there.

But the Congolese natives have gathered immense quantities of rubber, as all the world knows; began all of a sudden to gather it, to the practical exclusion of every other interest, and in the face of increasing difficulties in the way of gaining a given amount in a given time; and without any sort of tangible return, such as might be supposed to tempt uncivilized natives, not before addicted to industry, to change their natures in this regard. What made them do it? Compulsion, the report admits. At whose hands? The traders', operating in the Congo only with the consent of the State, which shares largely in the profits as the price of granting trading monopolies.

Can you, the reader, buy rubber in the territories exploited under concessions? Can any native sell the product of his labor to any but a *cessionnaire* trader? Can any native refrain from gathering rubber if he prefers to go fishing? Does the native get for his rubber the means to clothe himself better, or procure better food, or make his home more comfortable than before the rubber traders drove him into the woods to work for their benefit? The commission's report affords no affirmative answer. The Arabs no longer sell the Congolese into slavery, the report does assert, but is the slavery of rubber gathering any better? Money has been spent in improving means of transportation, but is this for the uplifting of the native, or for the primary interest of the trading companies.

But discussion of these questions will not check the reckless exhaustion of the Congo rubber supply, which may be expected to continue until consumers of rubber must look to other sources to meet their demands. When that time comes the traders will have made enough money to enable them to retire on comfortable fortunes, and the State, despoiled of its greatest natural wealth, will probably not be thought worth contending for—at least until many more eligible regions have been more fully developed.

LARGE YIELD FROM PLANTED RUBBER.

STRANGE as it may at first appear, the actual productive capacity of no rubber yielding species has yet been subjected to tests sufficiently accurate or comprehensive to lead to a determination of this really very important question. But it must be considered that the greater part of the world's supply of rubber hitherto has been extracted from forest trees, in regions remote from centers of scientific research, by native races having a very limited intelligence. Why should a Brazilian indian or a

Congolese negro care to note the yield of a particular rubber tree, even if he had the capacity to register it, which is doubtful? And why should the buyer of rubber, at a distant trading post, care to know what one tree could be made to yield? Both the gatherer of rubber and the trader who has him in subjection cares only for general results.

It is different with the planter of rubber as a commercial proposition. But the rubber culture is yet in its infancy, and with a few exceptions only very young planted trees have been available for experimenting. It was natural at first for planters to adopt the practice, with regard to the different rubber species, by which various native races have obtained so many millions of pounds of rubber in the past, but of late some of the planters, of an investigating turn of mind, have been looking further into the matter, and already with surprising results.

A notable contribution to this subject appears elsewhere in our pages, from the pen of Mr. Ivor Etherington, of Ceylon. It appears that within two years, on one estate, the average yield of young *Hevea* trees has increased from less than 1 pound—then regarded as a fair return—to more than 5 pounds. But it is not reasonable to suppose that the limit of productive capacity has increased in any such ratio: the increased yield has been due to better methods. But returns from certain older trees are even more surprising. Think of an average of 16 pounds from trees less than 13 years old—pointing to a money profit of \$20 per tree, capable of being planted 150 to 200 per acre! Another result of better tapping methods than were at first practiced. These figures will have further weight when we mention that THE INDIA RUBBER WORLD has nowhere found a record of 16 pounds of rubber yielded in one year by the oldest *Hevea* trees in the Amazon valley.

It does not follow that an equally large yield can be obtained everywhere, even from *Hevea* species; still less does it follow that these results can be duplicated with any other species. But what we want to point out is that by continued and intelligent experimenting the Ceylon rubber planters are obtaining much more rubber than by any method formerly used. And this fact, it seems to us, should suggest to planters of other rubber species, in other regions, that perhaps they have not yet found the means to obtain from their trees the maximum yield of which they are capable.

WASHED RUBBER FROM THE FAR EAST.

THERE seems to be a diversity of opinion as to the wisdom shown in preparing rubber as it is now coming from the Far East—that is, rubber in what is known as the "washed" form. To-day the market receives two kinds of washed "Para" from Ceylon and the Federated Malay States, one of which is known as "crepe" and the other as "worm" rubber. The physical shape of these two types is due to the machines through which the latex passes in the process of coagulation and in getting rid of the water. The special objection that importers and brokers have against rubber in this form is their fear that the manufacturer will look

upon it as a partially manufactured product; that it has been handled on rolls similar to those that they use in compounding, and, therefore, that it may be adulterated. On the other hand, the planters find that they can handle the latex much easier and more rapidly, and have apparently determined to deliver it in one or both of these forms. The chances are that unless some better method is discovered, the planters will triumph.

Samples of the rubber that have been examined by the writer are excellent, and it can easily be proved whether adulterants are present or not by very simple tests. Further than this, there does not seem to be the slightest fear that any of the Far Eastern planters will adulterate their rubber. The tendency has been from the start to make just as good a product as possible, and to identify whatever is sent out with the plantation where it is grown. It is possible that the customs offices in "protection" countries may at first classify such rubber as a manufactured product, but there is little doubt but that such decisions could be reversed if the matter were put before the proper officials in the right way. What is needed more than anything else is to get out more rubber, and whether it is "crepe" or "worm" or "pancake" or "sheet," it is bound to find a good and profitable market, and in the long run the simplest method of coagulation and handling is that which will prevail.

"WORKING OUT OF IT."

THAT there has been a notable advance in the knowledge of rubber and of rubber manufacture in the last few years goes without saying. Chemists, superintendants, and rubber workers are all far better equipped and know more about the business than ever before. At the same time it comes to even the best manufacturers every now and then that they are but at the beginning of the solution of the great problems that the industry presents. This appreciation of lack of exact knowledge is driven home when certain high grade goods that are most carefully compounded, and where every detail of the manufacture is apparently guarded against accident, suddenly begin to "go bad." Then it is that all the experts are called in, and the combined experience of the factory brought to bear to locate the cause. Usually there are a half score of theories formulated, any one of which appears reasonable. When these are all exploded and the goods still come out of the heaters damaged, the sense of helplessness is something pitiful. Then as a rule the damage lessens, and to use a factory phrase, they "work out of it," the result being that they neither know why the trouble began nor why it ended. There are, no doubt, expert and enthusiastic chemists who will claim that to-day no such conditions should exist. The only answer is, that they certainly do, and in the face of all expert knowledge. This is the reason that when any compound or process is working well on high grade goods in any rubber factory, and a new ingredient, a new process, or a new machine is urged by an enterprising salesman, the manufacturer so often turns a deaf ear and insists upon letting well enough alone.

IT USED TO BE A COMMON REMARK in the trade that, so narrow is the margin between the production and consumption of rubber, the loss of a single cargo at sea would notably influence prices. The assertion has had partial proof of late, though as yet, we believe, no important cargo of rubber has ever been lost on the high seas. But recently a shipload of 210 tons went down in the Amazon, and the first effect was an advance in London prices. This was only temporary, however, since stocks were larger than for some time, and the hope prevailed that the sunken rubber would be raised. It now appears that all of the *Cyril's* cargo has been salvaged but 17 tons. But a single ship has sometimes carried a thousand tons of rubber from the Amazon, and the loss of such a quantity in midocean would indeed upset all market calculations. The shippers might be protected by the insurance companies, but the world would miss the rubber. A consoling feature of the *Cyril's* case is that rubber is not injured by so slight an accident as being dumped in the bottom of a river for a few weeks. It is, indeed, subject to fewer ill influences than almost any other cargo known to commerce.

IT IS PLEASING TO KNOW that somebody is getting a "square deal" in connection with "rabbit weed" rubber. Our esteemed contemporary, *The Democrat*, of Durango, Colorado, in a report on preparations for producing rubber in that locality, says that "those who gather the weed are paid in accord with their effort and intelligence in harvesting it." This, of course, is most commendable. But we had been led to suppose that it was the lack of intelligence that counted in the much vaunted development of the Colorado rubber industry; the less intelligence on the part of investors, the greater the success of the company promoters.

THE SCARE HEADLINES IN THE NEWSPAPERS, in regard to an alleged Tire Trust, are interesting, even if they are not accurate. The truth is that certain licensees under the G. and J. patents are making tires, and none others are able to use exactly the same fastening. The result has been that the quality of the tires has been kept up, and just as good a product put on the market as possible, nor have exorbitant profits accrued to the manufacturers. It is doubtful if the average profit of the licensees has been 10 per cent. since the automobile tire first found a market.

THE EDITOR'S BOOK TABLE.

ELECTRICIANS' HANDY BOOK. A MODERN WORK OF REFERENCE. A Compendium of Useful Data, Covering the Field of Electrical Engineering. By T. O'Connor Sloane, A. S. C. E. New York: The Norman W. Henley Publishing Co. 1905. Leather. 300 pp. Illustrated. Price, \$5.00.

THIS is by no means Professor Sloane's first literary effort in the electrical field, and it is barely possible that the single word "Sloane," on the cover, will sufficiently recommend the book to the initiated. Beginning with a treatise on algebra, the reader is hurried over the general principles of theoretical and applied electrical engineering, descriptions of processes, and of instruments, the main points being illustrated with copious drawings and diagrams. It must be confessed, however, that it conveys not the slightest idea of the immense importance of India-rubber to the electrical industries. Beyond the recommendation that "good India-rubber shoes" be worn when working around electrical machines, it is impossible to find in the book any mention of India-rubber or Gutta-percha.

IN CURRENT PERIODICALS.

ZUR Castilloakultur. By Th. F. Koschny. [Relates to the observations of the author in Central America.] = *Der Tropenpflanzer*, Berlin, LX-12 (December, 1905). Pp. 660-667.

OBITUARY.

WILLIAM E. PAGE.

THE death is reported of William Elias Page, general manager of the Chicago-Bolivian Rubber Co., while on his way from Bolivia, somewhere in the vicinity of San Antonio, which is 750 miles above Manáos, on the Madeira river. The cablegram received in Boston gave no particulars, so that at the time of writing it is impossible to decide whether this brave adventurer came to his death through the upsetting of his canoe and drowning, or from pernicious fever; either calamity being quite possible, as the Madeira river at the time was very low.



Mr. Page was one of the pioneers in the Amazon country. He represented Henry A. Gould for some time, and later was in the crude rubber business as a trader at Manáos.

Since 1883 he has spent alternate years either in the Amazon country or in Bolivia, with the exception of perhaps two years, when he was connected with the Crude Rubber Co. in New York. On January 11, 1904, he left for Bolivia, going in from the West coast, and labored most energetically to get a working force together for the Chicago-Bolivian Rubber Co. in order to get out more crude rubber. He also did much exploring.

Mr. Page was of athletic build and inured to tropical life and, had he lived, would undoubtedly have done much to develop the riches of the Bolivian rubber forests. He was 49 years old, was a member of the Harvard class of '79, and one whose knowledge of the greatest rubber producing area of the world was most complete. He leaves two sons, both of whom are connected with rubber houses, one being in the employ of George A. Alden & Co., and the other of the Hood Rubber Co.

At a special meeting of the executive committee of the New England Rubber Club, held on November 28, 1905, the following resolutions, were passed and it was voted to appoint a committee to attend the memorial services as a mark of respect to its late member, Mr. William Elias Page:

WHEREAS, News has reached us of the death at San Antonio, Brazil, South America, of our friend and fellow member, we the executive committee of the New England Rubber Club, in recognition of our loss and of our esteem for his memory, record the following resolutions:

Resolved: That in the death of our fellow member, William Elias Page, our association has lost a valued friend.

Resolved: That the rubber trade has been deprived of the benefit which, regardless of self sacrifice, he had hoped to bring to it through his research in the wilds of South America.

Resolved: That we extend to his widow and family, our deep and sincere sympathy.

Resolved: That these resolutions be spread upon the records of this Association, and that a copy be engrossed and presented to his family.

JOHN H. FLINT, President.
ARTHUR W. STEEDMAN, Vice President.
GEORGE P. WHITMORE, Treasurer.
ELSTON E. WADBROOK, Assistant Secretary.

= Mr. James Ross Parsons, Jr., United States consul general in Mexico, lost his life on the evening of December 5, in Mexico City, from being thrown from his carriage in a collision with an electric street car. Mr. Parsons, who has been mentioned a number of times in THE INDIA RUBBER WORLD in connection with official reports on rubber planting prospects, was still a young man and had not long been in office, but gave promise of becoming a valuable member of the consular service. On Christmas day his remains left Mexico City, with a military escort detailed by President Diaz, destined for Mr. Parsons's native town in New York state.

= Mr. Edward Atkinson, a well known social and political economist of Boston, died suddenly on December 11, in his seventy-ninth year. He influenced public opinion by his writings and addresses on many subjects, but in his relation to business he was an insurance man, having been for a long time president of the Boston Manufacturers' Mutual Insurance Co., which he helped to establish. The principle upon which this company is based is the same as that governing the successful Rubber Manufacturers' Mutual Insurance Co.

ECHO OF A SWINDLE IN RUBBER.

A REPORT reaching New York from Caracas since the last issue of this Journal states that the Fuchs Syndicate have foreclosed their mortgage, which means that the Pará Rubber Plantation Co. are now without property in Venezuela, the Berthier tract never having been acquired.

It will be remembered that the Pará Rubber Plantation Co., alias the International Rubber and Trading Co., alias the Two Republics Chartered Co., began about 2½ years ago to advertise very widely the sale of shares of stock, claiming to be actually shipping rubber from Venezuela at a great profit, and with the use of Mr. John Cudahy's name as head of the company, many victims appear to have been separated from their money. Readers of THE INDIA RUBBER WORLD know, however, that the company's transactions were confined to the sale of shares, such dividends as were paid having been returned to the investors out of their own money. In other words, the whole business was pure fraud, though there is no evidence that Mr. Cudahy knew this until the promoters of the company had lined their pockets and disappeared.

There had to be some basis for the company originally, and this was a contract to purchase a certain concession from the Venezuelan government held by Belgian parties known as the Fuchs Syndicate. The purchase price is understood to have been \$125,000 in cash and \$750,000 in shares of the Pará Rubber Plantation Co. It appears that a payment of \$25,000 was actually made, and the mortgage covering the remainder has now been foreclosed.

WATERPROOFING COMPOUND.—United States patent No. 802,670, granted to Maximilian Toch, of New York, relates to a waterproofing compound which admits of cold application, composed of a mixture of hard bitumen dissolved in china-wood oil and linseed oil, to which a solution of gum kauri, fused in linseed oil, and petroleum bitumen are added, and which liquid is then reduced to a specific gravity of about 0.95 by the addition of turpentine, benzol, and naphtha.

AMAZON CABLE.—The accounts for the year ended June 30, of the Amazon Telegraph Co., Limited, for the first time show a net profit, which, after providing for interest charges, amounts of £9836 [= \$47,866.89], reducing the debit balance brought forward to £78,235.

RUBBER TAPPING ON KEPITIGALLA ESTATE.

By Ivor Etherington (Colombo).

IT is to be regretted that the Editor of THE INDIA RUBBER WORLD, when in Ceylon a year or two ago, was not able to include the important Kepitigalla estate, in the Matale district, among the rubber plantations he visited. But as a typical example of a well worked plantation of cacao and *Hevea Brasiliensis*, a brief account of it may now prove acceptable to the readers of this Journal.

For a country with such a well developed system of railways and fine roads, Kepitigalla must be accounted as very much out of the way. It is 18 miles as the crow flies from the nearest railway, but the steep hills and deep valleys can only be crossed by miles of zigzagging bridle paths, and short cuts through the jungle of virgin forest. On the other side the outlet is also a long winding track across streams and torrents and through dense jungle and newly opened rubber clearings, and by a precipitous pass in the surrounding hills to the Sinhalese village of Wé-uda on the road, 12 miles to Kurunegala, the nearest railway on that side.

When Mr. Francis J. Holloway, the estate manager, invited the writer to face the journey and visit the estate and his new rubber factory, no second invitation was needed. A Sinhalese bullock hackery is not the most comfortable kind of traveling cart that can be thought of, and 12 miles of it up and down hill with the temperature almost running into three figures in the shade makes one both sore and dry. For the first there is no remedy until the journey's end; to remedy the latter complaint one has only to pull up frequently at the native huts by the roadside and mention the magic word "kurumba" to the more or less scantily attired son of Adam busily employed cleaning his teeth for hours together, or examining his son's, wife's, or neighbor's head for the same reason that monkeys do. He arises, walks nimbly up the 30 feet stem of the nearest cocoanut palm and returns with a mighty green nut; three strokes and a whittle with his knife and he offers you one of nature's most cooling and refreshing drinks. Wé-uda is at last reached and there after changing one's wringing wet underclothes, the horse, sent up by Mr. Holloway, is mounted and the last stage of the journey commenced.

The sky, shortly before so blue and cloudless, is now covered with dense black clouds presaging a big storm. Down come the heavy drops, accompanied by a terrific thunderclap, drenching one to the skin in a few moments. The path leading up the pass is steep enough, but on the descent side it is precipitous and rocky, washed by torrents swollen by the heavy rains, and where even a goat would have to hold on by the skin of its teeth the horse finds it no easy work, and one has to grin and enjoy the feel of soaked clothes and hope for something better at the end. The path runs along the side of a fine gorge, the mountains towering up on each side and every two or three minutes lit up by the vivid lightning playing over the rocks while the thunder echoes and reëchoes round the hills rolling round like almost continuous artillery fire.

Soon the flat basin of the Deduru-oya river lies far below, chequered with bright green patches of native rice fields, small patches of cultivated gardens, and blocks of dense jungle. Facing one is a long range of hills with ragged rocky points, forming the watershed of the river; along this hillside runs what looks in the distance like a fine young forest, but what I know to be the cacao and rubber plantations I am aiming at. The river ford being crossed, another hour's ride brings me to Mr. Holloway's bungalow, perched on a leveled abutment on the hillside. Dry clothes and dinner are very welcome, and with the help of lounge chairs my good host and myself discussed rubber topics far into the night. Work on a rubber plantation starts early, so we were up betimes next morning to see the start of the tapping operations.

KEPITIGALLA ESTATE.

THERE are now about 1400 acres in rubber on Kepitigalla, of which 830 acres form the old estate and 570 are new clearings. This all lies along steep hillsides and faces due west. In this there is a peculiar advantage. The whole place being in the shade of the hill until a comparatively late hour of the morning, tapping can be carried on until 10 or 10.30 A. M. Kepitigalla was first and foremost a cacao estate, the rubber being planted with the primary object of giving shade to the cacao, with the thought that if rubber should prove a paying thing the trees would be there to produce it. The oldest trees were planted along the roads and ravines, and gradually throughout the cacao, so that now from certain elevated points one can look over a fine stretch of *Hevea* foliage, the rubber trees tower well over the cacao. The rubber is planted through alternate lines of cacao 24 X 12 feet, and along the roads, ravines, etc., 12 X 12 feet. [This would



TRANSPORT ELEPHANTS ARRIVING AT THE ESTATE FACTORY.

[Photograph by Mr. Etherington.]

give 155 and 330 rubber trees per acre, respectively.—THE EDITOR.]

The land has an elevation of from 600 to 2000 feet; the soil is of a generally rocky and in parts very rocky description, but the soil is particularly good, and goes down deep so that the rubber trees thrive well. In places they seem to be growing out of sheer rock and where the enormous taproot of the tree finds scope to grow is a puzzle. On one road which had to be widened the soil was dug away from the bank to a height of 5 feet, exposing to this length the great tap and thick surface roots of two *Heveas*, which now stand right out from the corner of the bank; but the trees apparently have not been in the least affected by this treatment.

In fact, *Hevea Brasiliensis* in Ceylon seems to be impossible to kill. Killing a tree by overtapping has not yet been reported in the island; the more latex you extract the better the tree seems to flourish; trees uprooted and blown down by gales still thrive, yield rubber, and send up numerous strong shoots which in a few years develop into trunks big enough to tap. Diseased cacao pods are collected and burned in heaps on the roads through Kepitigalla and several trees have been badly burned by these fires. In some of these the wood has been burnt out

to the heartwood to a height of 6 feet, but the tree soon recovers; a splash of tar keeps out fungus spores, and the bark gradually closes over the gaping wound. No tree is tapped until it is at least of 20 inches girth at 3 feet from the ground, and the older trees are from 50 to 60 inches or more in circumference.

The labor on the estate is plentiful, being all Tamils from South India, and nowhere can there be found a better and cheaper agricultural laborer. The Sinhalese in the villages around are useful for felling and clearing jungle for new plantations, always on contract work, but they cannot be depended on and will take a few days' holiday whenever they feel inclined. The tapping system in vogue on Kepitigalla for several years is about the simplest and easiest imaginable, and is in consequence the best for the Tamil coolies, who after a little practice become very expert. Some of the best tappers are youngsters of 12 and 15 years.

TAPPING METHODS.

Mr. Holloway has always been in favor of single short obtuse V cuts, up and down the stem; according to its girth each tree carries 6, 8, or 10 cups at a single tapping. The trees are tapped twice during the morning and there is no evening tapping. This is very much in favor among the coolies, whose regular day's work is over by noon. At 6 A. M. the tapper starts his round and fixes the cups; at 8 to 9 o'clock he goes a second round, re-taps and affixes cups again; by 10.30 to 11 he is back at the factory with the tins of latex. Each gang of two coolies has 220 trees to tap, and taps 110 on alternate days; and, allowing resting time for the trees, each gang taps 440 to 500 trees per annum. This allows to two coolies $2\frac{1}{2}$ acres per annum, or rather less than *one cooly per acre, per annum*. The Holloway tapping knife is an improved V cutting knife; it is heavier than the old knife and has movable blades; the V blade head is fastened to the handle by two small screws and nuts, and a blade when worn down after four months' use is easily replaced.

It is usual in Ceylon to tap only the first 6 feet of the trunk up from the ground, except on very large trees. Mr. Holloway believes that the trunk may be profitably tapped to a much greater height; his trees, having their lower branches lopped off, show tall straight stems from 25 to 50 feet or more and he is experimenting as to how far up they may be tapped, going higher each year. At present after a tree has been thoroughly tapped for its first 6 feet for some years he goes higher and taps up to 12 feet, and this year is going up to 15 and 18 feet, and with excellent results. These are tapped once per annum with a series of single oblique cuts 8 to 10 inches long. Light ladders are used, and as many of the trees are on steep rocky places the tappers find it easier to make single oblique cuts, when clasp the tree with one arm for support, than the V cuts.

The tapping coolies work in gangs of two—the tapper and his assistant, who carries the cups and cans for latex and affixes the cups to the tree. Each day 24 gangs of tappers are at work on 110 trees, so that every two days 5280 rubber trees are

tapped. A gang brings in sufficient latex each day to make about 30 biscuits and these being 8 or 9 to the pound, work out at $3\frac{3}{4}$ pounds dry rubber collected per gang every day.

A RUBBER COAGULATING "FACTORY."

THE tapper on arriving at the factory with his latex has to strain it, place it in the coagulating pans, and set these out to coagulate. Each man's latex is kept separate and numbered, so that it can at once be seen if a man is doing his work properly, and if not he is given a "half name" for his day's work. The coagulated biscuits are next day passed through a mangle and then sent into the hot air drying room, with a temperature of 100° to 105° . The rubber is practically dry after one day there, and is then passed into the drying and store room where it remains until several thousand pounds are ready to be graded according to color and packed for transport to Colombo. The roof of the factory is corrugated iron and this keeps up the temperature; the biscuits are dried by hanging on wires stretched along below the roof about 2 inches apart, and the sight of the four store rooms, 72×24 feet, each literally canopied with rubber, and more round the sides and down the middle on wire shelves, was an interesting spectacle. All the rubber until the end of 1905 is sold on contract to a Col-

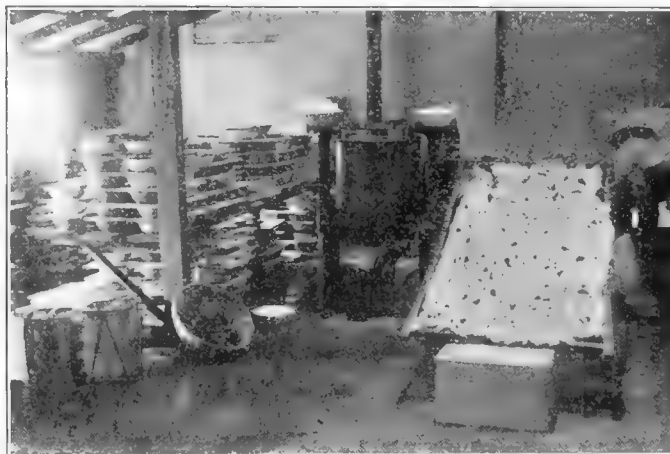
ombo firm at a price well up to the London average for the year, and that is over \$1* per pound.

The new rubber factory is a cement floored building fitted with power for driving any machinery. Stands are fitted for holding the pans of coagulating latex, and in it are a "Michie-Golledge" coagulating machine for making the now fairly well known "worm" rubber; a "Dickson" coagulating machine, for coagulating by the smoke process; and a "lace rubber" machine of Mr. Holloway's own invention for turning out coagulated rubber in thin lace form for very rapid drying. A big rubber washing machine is

shortly to arrive from the Malay States.

A COAGULATING MACHINE.

The Michie-Golledge machine is a rapid coagulating engine the invention of two Englishmen in Ceylon—Mr. D. Michie, head of the engineering department of a large Colombo firm, and Mr. G. H. Golledge, manager of the large Gikiyanakande rubber estate in the Kalutara district. These gentlemen have been working at it for a long time and now it is on the market although improvements will probably be made. Cemented into the factory floor the machine stands some 4 feet high; it is composed of a large iron drum inside of which another drum, holding the latex, is rapidly revolved. This inner drum has 4 blades running around the inside, and in the bottom is a waste pipe for carrying off the "mother latex" or waste water after the rubber is coagulated. A leather belt running from the axle of the revolving drum to a large wheel gives the power, and the wheel



A CORNER OF THE NEW FACTORY.
Showing (1) Pans of Latex Coagulating into Biscuits; (2) A Michie-Golledge Coagulating Machine (with small bits of creamed rubber); and (3) Freshly Made Lace Rubber.

[Photograph by Mr. Etherington.]

* Our correspondent refers to the American dollar, and gives no other figures for values. Mr. Holloway wrote sometime ago to *The Times of Ceylon* that rubber could be delivered in Colombo under 50 rupee cents [=16.4 cents, gold] per pound and was then selling in Colombo at 4.15 and 4.20 rupees [= \$1.34 to \$1.36 per pound], since which time higher prices have been obtained in that market.—THE EDITOR.

is turned by two coolies. The late Dr. C. O. Weber long tried to coagulate latex by a centrifugal machine, and finally declared that it could not be done. The Michie-Golledge machine has been termed a centrifugal machine, but this is erroneous, because *centrifugal* is often popularly understood to mean merely a revolutionary motion. The Michie-Golledge machine is a *centripetal* machine; instead of fleeing from the center of the machine, the globules of Caoutchouc in the latex are induced to *seek the center*, the narrow blades above mentioned rushing the mass of coagulating rubber into the center where it gradually comes out a creamy spongy mass.

The latex on arriving from the plantation at the factory is diluted with four times its bulk of cold water, and for every gallon of diluted latex one drachm of acetic acid is added. Up to 6 gallons or more can be coagulated at a time, but probably when more estates and trees have come to maturity large sized machines, holding 20 to 50 gallons or more, will be built, to be worked by steam or water power.

The latex with the acid having been placed in the drum the machine is set at work, revolving rapidly at first and then slowing down as the latex is nearly coagulated. A large amount of froth comes up on the latex at first, this seeming to differ in quantity according to the age of the tree, the length of time it has been tapped, and so on. Also the same considerations seem to affect slightly the time coagulation takes. In from 6 to 8 minutes the latex is coagulated and appears as a huge mass of white sponge in the middle of the machine, of the consistency of thick clotted cream. This freshly coagulated rubber is very porous and full of water. The "sponge" is then placed on a mangle and passed rapidly through it; the surplus water is pressed out, but the rubber must not be too heavily pressed, as this tends to lessen its porosity and consequent rapid drying and the very object of the machine and method is rapidity in turning out dry rubber ready for shipment. After mangling, the rubber is ready to be cut up by shears or clipping knives into small shreds 8 inches long, now popularly known in the East and on the London market as "worms."

There is room for improvement in the machine, as the clipping process by hand is slow and laborious. I can conceive of a rolling and clipping machine in one; the rubber coming out of the rollers in a continuous thin sheet and automatically clipped into shreds by a chopping blade.

This machine does not *wash* the rubber, as in the case of the washing machine employed in the Federated Malay States, but it removes all mechanical impurities. The cut up "worms" are exposed to currents of hot air in the factory, where they are spread out on tables and the rubber is perfectly dry and fit for packing in 30 hours. It may be stated that "worm" rubber has fetched top prices in the London market.

MR. HOLLOWAY'S LACE RUBBER MACHINE.

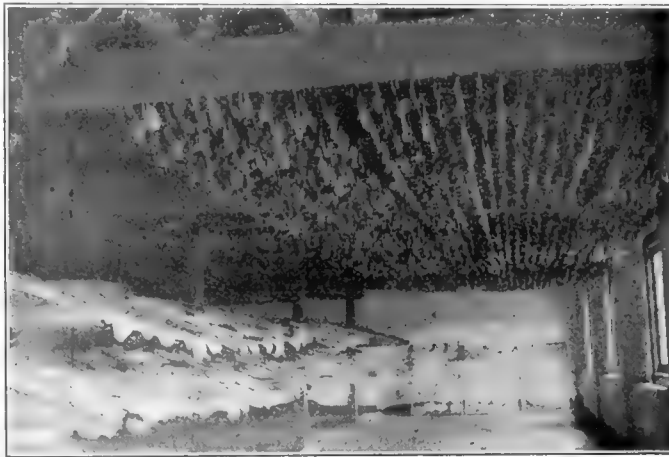
The "lace" rubber machine is of Mr. Francis Holloway's own invention. The latex is very rapidly coagulated and comes out of the machine with nearly all the water pressed out of it by rollers. It is turned out in a continuous sheet, 12 inches wide, and

very thin and torn and broken into holes, which give it the name of "lace rubber." While the writer was at the factory latex was brought in fresh from the *Hevea* trees, coagulated and turned out as "lace" by the machine and dried by currents of air, at a temperature of 90° to 95° and completely dried ready for packing for shipment in 19 hours. The machine feeds the "lace" on to wire frames; it is cut into segments 6 feet long to fit these frames and then rapidly dried on them. When dry the rubber is of a fine golden amber color, with a sweet fresh odor. The pressed samples in the factory storeroom ready for packing looked when unfolded like huge blankets of lace rubber. It can also when dry be compressed into almost solid blocks if required, and in bulk its own weight compresses it; but as "blankets" it is readily examined and its purity and color are at once obvious. Samples are being sent to the London market. It is one of the most expeditious methods of making and drying rubber for market artificially yet brought out.

RUBBER SMOKING APPARATUS.

The third machine in the Kepitigalla factory is the Dickson coagulating machine, the invention of Mr. R. C. Dickson, of Colombo. This coagulates the rubber by a smoking process, thereby closely copying the methods of the Brazilian *seringueiros*,

only doing the business more scientifically and expeditiously, and therefore more economically. The machine is a coagulator and drier. It consists of a small charcoal furnace on the top of which is a smoke box containing a large revolving drum. Between the furnace and the smoke box is a set of baffle plates to divert fumes from the furnace and prevent flames or sparks passing into the smoke box. At one side of the smoke box is a shallow pan for receiving the fresh latex; and in the pan a small roller, partly immersed, works in contact with the surface of the revolving drum. The



DRYING ROOM NO. 4.

[Ceylon Biscuits Suspended on Wires, or Laid on Frames to Dry.]

[Photograph by Mr. Etherington.]

smoke fumes pass through the baffle plates round the large revolving drum and out of a chimney in the top of the smoke box. The small roller is turned by hand or machine power, and being in contact with the big drum revolves it, and at the same time coats it with a thin film of latex. This thin film coagulates and dries in the smoke as the drum revolves. The process is continued until the rubber is coagulated, film by film, on the drum, and a thick deposit of rubber is formed. A damper is then closed between the smoke box and the furnace; the rubber on the drum is slit across with a knife and unrolled in a long sheet. The antiseptic properties of the smoke tend to cure and preserve the rubber, and the sheet is dry right through. The machine is a cheap one, and the inventor has in mind a number of the machines erected in small sheds over the rubber estate.

These three machines are all in the Kepitigalla factory, which is one of the most up-to-date and well equipped in the East. The factory and huge drying and storerooms make it about the largest plantation rubber factory in the world.

The washing machine had not arrived at Kepitigalla at the time of my visit; it will probably arrive in sections very soon, as most Kepitigalla purchases do, on the back of an elephant.

This machine thoroughly washes and cleanses the rubber, turning it out in a thin, semi transparent sheet, punched all over and giving it the appearance of crepe—hence the name of rubber treated by the machine. An advantage with it is that scrap and dirty rubber taken from the trees can be put through it and turned out perfectly clean and as good as fresh biscuits.* Besides the tapping knives and "lace machine," Mr. Holloway has invented a "rubber tapping guide." It consists of a pole 12 feet long with a row of holes one foot apart and a peg to fit into them. On the pole a sheet of tin fits and slides readily up and down and is fixable at any of these holes with the iron peg through it. This guide, held against the tree, gives exactly the positions and is a rule for cutting half or full "herring bone" cuts. It is quite evident that whatever tapping system is adopted, to be economic, the cuts must be made regularly and correctly; this the Tamil coolie cannot do himself, but given the Holloway guide he cannot easily go wrong. Further, held the other way up, the guide gives correct positions and marks for the spiral cutting method, one which has recently been brought forward in Ceylon by Mr. Charles Northway, a rubber planter of experience in the southern province, and a system which has given astonishing results. It is well worth giving a few particulars here.

SPIRAL TAPPING.

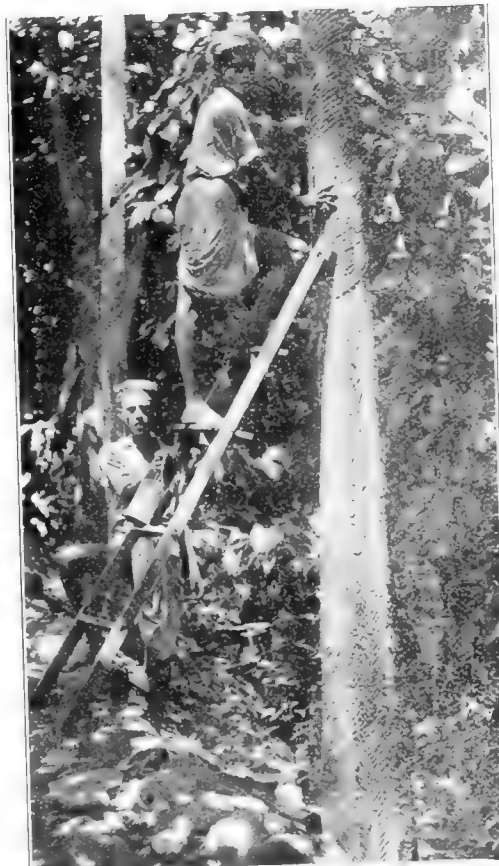
THE spiral tapping system is the result of experiments carried on by two planters, Messrs. Charles Northway and E. D. Bowman, on Deviturai estate, in the Southern province, Ceylon, who recognized the need of an economical and scientific method of tapping *Hevea Brasiliensis*.

It is desirable that the bark be removed from the tree as slowly as possible, at the same time yielding the greatest flow of latex consistent with no harm to the tree. Though it is now known that the tree will stand a tremendous lot of ill treatment in Ceylon and yet survive and yield well, yet the tree has a limit of production of latex, and when that is reached its flow diminishes and a rest for recuperation is required. Further, under scientific tapping, the bark must be renewed evenly

* The machine referred to, made by the Federated Engineering Co., Limited, (Kuala Lumpur), was designed by their manager, Mr. Dearie Russell, and has been in practical use on Malay States rubber plantations for more than a year, having the warm approval of Mr. P. J. Burgess, the government rubber expert.—THE EDITOR.



SPIRAL SYSTEM OF TAPPING.†



HIGH TAPPING OF "HEVEA."

over the trunk so as to offer a new surface which is smooth and easily re-tapped, and the renewed bark must be mature and full of laticiferous cells by the time it has to be tapped a second or third time. All these essentials are found in the use of the spiral system. In this method a series of spiral cuts corkscrewing up the tree are made in the bark, each channel terminating at the base of the trunk.

For a tree of 18 inches girth, 3 feet from the ground (at which size the commencement of tapping is recommended), two spirals are cut, starting at opposite sides of the trunk, and only encircling the trunk once. As the girth of the tree increases, more spirals can be cut between and parallel to these, so that a large tree, of say 60 inches girth, will have 5 spiral channels one foot apart running up the tree to 12 or 15 feet high or more. The channels are cut at an angle of 45 degrees—never more obtuse, and even more acute in the case of young trees to allow for the expansion of the trunk. None of the various tapping tools and knives previously in use in Ceylon or elsewhere was suited to this system, and the producers of the system had also to evolve a knife to suit the requirements. This is called the "Bowman-Northway" knife—or knives, rather, as more than one is required.

The spiral tapping must be carefully carried out to secure the fullest results and to be really economic. It is important that the first cut, which is thereafter to be continually reopened, should be correctly done, and that the corkscrew curves be regular and parallel. To do this he outlines of the initial cuts are carefully marked on the tree with a sheet tin guide and stencil ink. The inventors lay stress on this.

The first narrow channel is cut with the Bowman-Northway No. 1 knife, which gouges out a narrow channel. The latex runs round the spiral and is collected at the base of the tree in cups resting on the ground. At the end of each cut a little tin spout is pushed into the tee, this always remains there, and does away with the constant pushing of the cups into the bark as in the older V system, and thereby needlessly wounding the bark. If required, to make the latex flow rapidly the whole

† This is a view of a *Hevea* tree on Deviturai estate, in Ceylon, yielding at the rate of 16 pounds per year. The coolies in the picture had just started, and had not got down to the lower trunk when the photograph was taken. The photographic negative was absolutely untouched.



"WORM RUBBER."

[Specimen from Ceylon, obtained in the American market and photographed by THE INDIA RUBBER WORLD.]

length of long spiral cuts, a little water is poured into the top of the cut by the tapper.

In reopening the cut a very thin slice of bark is shaved off the lower edge of the open wound—for healing of the wound always takes place more rapidly from above downwards. The finer the shaving taken off the better, for all that is required is to open the laticiferous cells and the less bark removed each time the more economical is the tapping. The first knife will not do this. Here comes into use the Bowman-Northway No. 2 knife, or paring knife. This knife has a fine steel spring which presses against the open wound of the trunk and prevents the *Cambium* being pierced, while the sharp edge at the side shaves off a very thin layer of latex and reopens the cells containing the milk.

Alternately with this paring knife is used the "Pricker." This is like a revolving wheel spur on a handle, and is run along the wound close to the lower edge of the cut. It produces a series of pricks right along the cut. The flow of latex produced is no less than that made by the knife; but the primary object is to bleed the tree without further bark removal. The trees are tapped on alternate days, and also alternately with the knife and the pricker. By this means one inch in width of bark is removed per month; the trees are tapped one month and then given one month's rest, so that in one year—*i. e.*, six months' actual tapping—6 inches of bark are cut away, and thus it takes exactly two years to cut down the trunk until the old wound of the parallel spiral below is met. By that time the bark is renewed perfectly smoothly and evenly, is full of latex,

and quite ready to be tapped again. This has all been proved in practical work on Deviturai estate.

YIELD OF RUBBER.

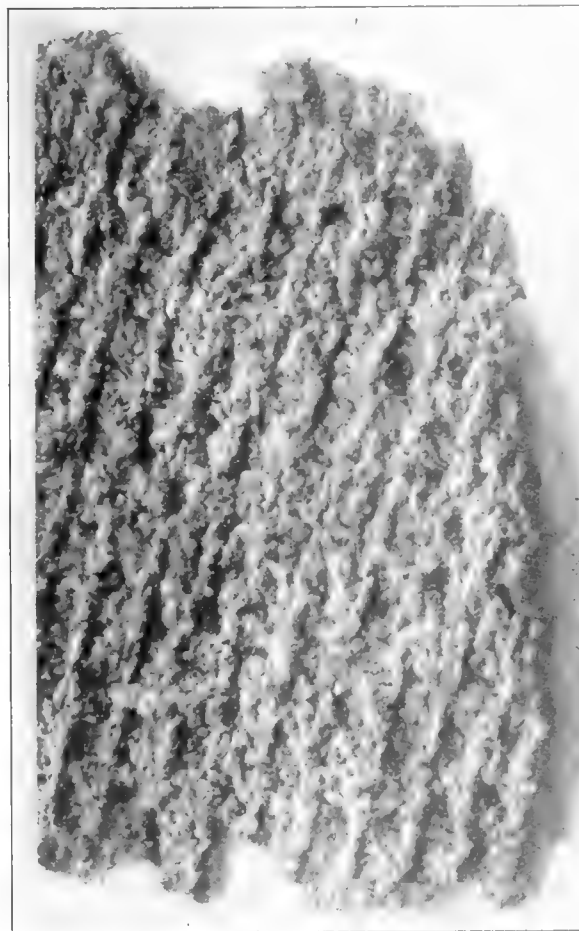
THE yields obtained by this method are surprising, and have totally upset all former calculations. Where formerly one pound of rubber per annum was considered a fair yield, now five pounds can be obtained. In 1903, with the V system of tapping, 248 trees gave 240 pounds of rubber. Tapped in 1904, on the spiral system, these 248 trees (rising 11 years old) gave 65 pounds the first month, and in 3 months gave 392 pounds rubber; and in January–September, 1905, the same 248 trees gave 1317 pounds rubber, by spiral tapping.

On a visit to the Deviturai estate in October, 1905, the writer was privileged to copy the following extract from the estate report for September:

The year's tapping on the new system closed with this month, with an average yield of just over 5 pounds per tree. The 8 separate trees tapped 8 months yielded 14 pounds each, and the 40 young trees in 4 months tapping gave 1½ pounds each.

The "40 young trees" mentioned were being tapped for the first time, and they gave total yields up to 19 and 21 pounds per month. The "8 separate trees" mentioned had an average girth of 42 inches, and in March, April, and May respectively they gave a yield of 14, 19, and 17 pounds of rubber, and in September (after having been rested during the seed crop) they gave 18 pounds for the month. Rising 12 years old, these trees have given an average of 16 pounds per tree per year.

The spiral system requires very careful tapping work, and



"LACE" OR "CREPE" RUBBER.

[Specimen from Ceylon, obtained in the American market and photographed by THE INDIA RUBBER WORLD.]

according to the girth of the tree an expert cooly can fully tap 30 to 40 trees per day (morning tapping only), bring in the latex to the factory, strain, and coagulate it, mangle the rubber, and be entirely responsible for turning it out into dry sheet rubber ready for packing and shipment, in the shape in which it reaches the London market.

There is very little scrap with this system, and all that there is has to be carefully pulled off the wound before the pricker can be used, so that no scrap is wasted. The rubber turned out is some of the finest ever seen in Ceylon. Such yields as these, and such excellent results with the trees are unequaled, and there need be no hesitation in stating that the spiral system will be widely taken up on plantations. Already on well known Ceylon estates it has been started, and also in the Federated Malay States. Undoubtedly this is one of the most important forward steps made in the industry for a considerable time.

PLANTING "CEARA" RUBBER IN COLOMBIA.

BY HENRY G. GRANGER.

[TRANSLATION of a Report of a Visit to "La Barrigona," to his Excellency Dr. Modesto Garces, Minister of Public Works of Colombia.]

AT the beginning of the month I visited the *hacienda* "La Barrigona,"* property of Messrs. Simon and Ignacio de la Torre, which occupies a large area on the banks of the Magdalena, one hour's riding from Cambao. It includes pastures capable, according to the manager, Señor Antonio Padellia, of sustaining 3000 cattle; a large plantain patch, corn, yuca, and a rubber plantation. Of the many buildings which were there before the war I only found left the *bodega* and main house, large and commodious, with wide porches, a testimonial of the good taste of the owners.

The rubber plantation is new and of its class the only one in Colombia (*Manihot Glaziovii*, producer of "white rubber"). A sample without any preparation was quoted in London at 90 cents (United States gold) per pound, some months since. At the beginning of the war (or in 1900) they planted some 500 trees of seeds imported from Ceylon. When the encampment was established there the soldiers cut down the little trees for tent stretchers, leaving only some 25, which are to-day very well developed; some being more than 12 inches thick in the trunk. They are planted approximately at 5 meters [=16½ feet] apart, the same distance of planting *Castilloa elastica* in Chocó.

From the seeds of these trees they have planted some 30,000 more trees at a distance of about only 2 meters apart, which is a good thing to prevent weeds, although this renders impossible the complete development of all of the trees. These 30,000 trees embrace all sizes, since there are from only a few weeks up to two years. As the trees yield seeds from one year old, a remarkable point even in regard to this class of rubber; the ground is completely covered with little trees, which for lack of light and space are only about a foot high. The seeds are hard and about the size of an Antioquian bean and remain good, as I have been informed, more than a year without planting them, which is undoubtedly an important advantage, considering that in other places, as in the Chocó, if you don't make seed beds within a few days of the seeds [*Castilloa*] having fallen, they are lost, either because they become too dry or they rot, and the little trees always suffer somewhat from transplanting.

The little *Manihot* trees have a smooth bark, while the larger ones (or from 4 inches in diameter up) have the bark turned up

with an apparent inclination of peeling off like the Northern birch, which doesn't appear to me to be a detriment because the latex which flows freely always falls off when the tree is tapped, and the "chaza," or that which dries over on the bark, can easily be pulled off.

Mr. Alford Bishop Mason has spoken to me of this plantation and was of the opinion that rubber could be extracted from the 2 year old trees, which have a diameter in the trunk of some 4 inches. To determine this point a long and careful study would be required. In the Chocó the cultivated rubber trees which are bled are what is called there "borrosos," that is to say, that their latex is thick and coagulates on the bark of the tree without the necessity of gathering it in cans or vessels, such as have to be used with the *Hevea Brasiliensis* for example, which facilitates greatly gathering it, although by reason of the little pieces of bark which remain adhered, the price is diminished. For this reason, in the Chocó in some cases they tap the trees 3 years old.

I observed in "La Barrigona" among various trees which I tried with my belt knife that there were only two which gave the thick latex; the others, even those only one year old yielded the latex freely, but it would be necessary to collect it in cans, which would not pay for the trouble in view of the small quantity which the little trees yield at a time. If one could discover the conditions, if there are such, under which all the trees should produce thick latex, then it would be practicable to tap small trees, making them produce from, as the total of many tapplings, ½ pound up per year. Otherwise it is necessary to wait until the trees are some 5 years old; judging from the quantity which I saw that they bled, even from cuts made on top of old cicatrices, they should easily give from 1 to 2 pounds per year collected in cans stuck on with clay below the tapping. There were in the farm some little hatchets with a blade only an inch long and very thick, which they had gotten to tap the trees, these are of no use. The knife to tap rubber trees should have a long thin blade with a fender to avoid passing the bark.

I have read in the Orient they extract rubber even from the leaves of some rubber trees by means of presses, and I noted at "La Barrigona" that on cutting or breaking a number of the leaves of the small trees which are below the large ones that they bled little drops of latex. This point is very important and should be experimented on with a hand mill such as can be obtained, with three rollers for grinding cane, from George L. Squires & Co., Buffalo, United States, and others. If it yields a sufficient quantity of latex then a steam mill could be installed with a certainty of two crops a year of a plant whose latex condensed is worth 90 cents per pound instead of 2 cents per pound for sugar; with a certainty that the cultivation will cost nothing and that the trees which drop the seeds in such short time and abundance that they will constitute a source of income.

Herr Franz Clouth, a notable authority on rubber matters, says that the hillsides should be preferred for the cultivation of *Manihot Glaziovii*, where it yields more. It would be very advisable that the Messrs. de la Torre should give orders for the planting of some thousands of trees on the hillsides back of the *hacienda*. Within three years this rubber plantation will have a large value for its owners, and at present is of much importance to Colombia by reason of the abundance of seeds which it yields and which could surely be obtained at a moderate cost from its owners by all who desire to follow their good example in accordance with the present Colombian program of "Peace and Work."

Cartagena, Colombia, May, 1905.

* The location of this *hacienda* is shown on a map in THE INDIA RUBBER WORLD, December 1, 1905 (page 75).—THE EDITOR.

THE DEFENSE OF THE CONGO ADMINISTRATION.

THE criticisms of the administration of the Congo Free State which have been so persistent for the past two or three years, particularly in England, have been noticed from time to time in THE INDIA RUBBER WORLD, with the qualification always that the concern of the rubber interest in the matter is wholly apart from world politics. In other words, this being purely a technical and trade journal, the interests which it represents most intimately must consider the Congo question primarily with regard to the reckless exhaustion of the rubber resources of the Congo which has been in progress for the past decade and is now nearing a climax. This being the only reason for our referring to the matter at all, the charges against the Congo administration which have been the text for such voluminous issues from the English press, not to mention German and other publications on the subject, have never been fully set forth in these pages. In view of what has been published in this Journal heretofore, however, it seems proper to refer here to a report recently published, of a commission of enquiry created on July 23, 1904, by Leopold II, king sovereign of the Congo Free State, to consider the abuses under which the natives of the Congo were alleged to be suffering and to decide upon such reforms as might be necessary to check such abuses. The full report of the committee, dated October 30, 1905, fills 150 pages of the *Bulletin Officiel de l'Etat Independant du Congo*, and is too lengthy even to be summarized in these columns. The details, however, which relate most definitely to the rubber interest will have brief attention.

A considerable section of the report relates to the products of the *Domaine de la Couronne* (the domain of the crown), which comprises by far the larger portion of the Free State and is administered as a national reserve. The most important of these products from a commercial standpoint thus far has been Caoutchouc, and the reference to this commodity in the report of the committee is here translated:

There is no doubt that the working of a rubber forest, continued for a term of years, results in exhausting the supply in the neighborhood of the native villages.

This fact explains the reluctance of the negro to gathering the rubber sap, an industry which is not in itself toilsome. For the most part he is obliged, every fortnight, to make a journey of one or two days, and sometimes more, to reach a place where he can find a sufficient growth of the rubber plant. There, for a number of days, he leads a miserable existence. He is obliged to improvise a shelter which evidently cannot be equal to his hut. He is deprived of his accustomed food, he is unaccompanied by his wife, exposed to the inclemency of the weather and to the attacks of wild beasts. His harvest he must carry to a station of the government or of the company, and not until then can he return to the village, where he can stay only two or three days, as another maturing payment pursues him.

The result is that whatever may be his industry in the rubber forest, the greater part of his days, by reason of these journeyings, is spent in

gathering rubber sap. It is hardly necessary to say that this state of affairs is a flagrant violation of the law which requires of the native 40 hours of labor per month. From our point of view, the only way to adjust this difference between the requirements of trade and the text and spirit of the law would be to let more time elapse between the periods when the native must make his returns. In this way the time lost in going to and from his labor would not be so great and the time required of him would come nearer to the 40 hours per month prescribed by law, especially if the quantity of rubber which he is required to furnish were more equitably fixed and did not reach a maximum rarely attained, and which we believe to be excessive. It might be objected that improvidence is a characteristic trait of the native, and that he would put off until the last moment his departure in quest of the quantity of rubber exacted of him. We think, however, it would be possible to require of the native a discharge of his debt to the state every three months, and then at the proper time the whites could remind the shiftless negro of his duty. His stay in the forest being thus more prolonged, but less frequent, the native would doubtless find it expedient to construct a more suitable shelter, and to take his wife along with him, and she would prepare for him his accustomed food. Moreover, in the opinion of the commission the imposts being necessarily collective, on account of the difficulty of reaching individuals, the inconvenience resulting from the intervals between the collections would be greatly diminished, and moreover the personal convenience of the natives could be taken more into account.

It is evident that if no tax were levied it would be necessary, in calculating the hours of work, to take into account the time spent by the laborer in getting to and from his work.

What is even more pertinent to the Caoutchouc interest, however, is the section of the report headed "*Les Concessions*," in which is discussed the relation of the *cessionnaires* to the state, and this of course involves the conduct of the Belgian trading companies whose operations in rubber on the Congo for several years past have resulted in almost fabulous, though now declining, profits. This section alone is much too lengthy for space here in full, but in

the paragraphs which follow an attempt has been made to present a summary which shall reflect, as accurately as possible the spirit of the official report, which is, of course, in French:

"As we have seen, it is in those parts of the country worked by companies having a concession that the most serious abuses have occurred. By *concession* we understand a right given to commercial companies to gather, for their exclusive profit, certain products of the state domain. Some of the companies own the lands which they work. In return for the concession, the state receives a considerable part (generally one half) of the profits.

"We are far from contesting the power of the state to concede rights in certain parts of its domain; at times circumstances have made this step necessary. The state, having neither the agents nor the resources necessary, was glad to avail itself of private capital. The laziness of the natives and their few personal wants made it impossible to work the forests (after those



LEOPOLD II
King of the Belgians; King Sovereign of the Congo
Free State.

lying near the villages had been exhausted) except by resorting to forced labor.

"To enable the companies to go on, the state, which exacted of the natives a tax in kind, or in labor, delegated a part of its powers to the companies, giving them the right to compel the blacks to gather certain quantities of rubber and some other commodities. This right, at first tacit, then express, was made legal by the decree of November 18, 1903, which set the tax in kind for the natives of the territories at 40 hours of labor each month. Previous to this legislative act the different companies had compelled the natives to harvest the products of the country, for their benefit, but they had kept up the principle of payment. It is the abuse of the right of exacting labor that has worked the greatest wrongs in the country.

"The quantity of a product required was not fixed by law but was left to the discretion of the agents of the companies. This vague determination of quantity still exists, under the law of November, 1903. Inspectors appointed by the state to see that the companies did not abuse their rights were too dependent upon the companies themselves to be very critical. Even magistrates sent in to investigate complaints were forced to travel on the boats of the companies and accept the hospitality of their agents.

"The result was that the companies looked upon themselves as masters in their territory and the state laws were practically nullified. In certain parts where no concession has been given, the native gathers the products for commercial companies under indirect compulsion. These regions are those in which the state, by the decree of October 30, 1892, gave over to private individuals the gathering of rubber. In the greater part of the Kasai basin, numerous companies, working under this concession, have incorporated themselves into a 'trust' for the purpose of avoiding competition. The 'trust' is known as the *Compagnie du Kasai*. It has no power to levy a tax in kind and hence can gather rubber only by dealing directly with the native.

"The indirect compulsion mentioned above is brought about in this way. The native is compelled to pay a state tax in local money called *croisette*, which can be obtained only of the agents of the company, in payment for rubber. The agent, aware that the native will not work after he has enough *croisette* to pay his tax, contrives to get as much of this rubber away from him as he can in exchange for other commodities. The price of rubber in *croisette* is not fixed by law, but is more or less a matter of bargain. The net result of all this to the disadvantage of the native.

"In other sections, particularly Lulonga, and in the region between the mouth of the Lomani and Stanleyville, the agent buys the rubber direct from the native. The latter is subject to no tax, yet he is obliged to gather rubber for the agent. At Stanleyville the negroes proposed to the agent of a Dutch house to furnish rubber without pay, provided the quantity required of them were diminished by one half.

"The conditions are better where there is competition, than where everything is in the hands of a single company. In Lulonga force is resorted to and the investigating committee were told by the agents themselves that the whip is used habitually. We do not believe it possible, except perhaps in the Kasai and certain parts of the eastern provinces to produce, from the free labor of the native, a regular supply of rubber. Nevertheless, we think that the state might, in certain particular regions, give up its rights to the products of the domain; allow companies to deal directly with the native, freeing the latter from all tax and leaving him to work only for pay. This would practically be testing the result which would have followed the en-

forcement of the decree of October 30, 1892. The result of this attempt might, even if it proved a failure, furnish some useful suggestions for the future. In order that the experiment might not be fruitless the state should see to it that no constraint, even moral, be put upon the native. It ought also to encourage the establishment of a large number of merchants, even giving them, at a very low price, the land necessary for putting up factories."

It may be said that on the whole the report of the committee on enquiry confirms the charges of abuses in many respects, but absolves the government of responsibility for them, and it is to be noted further that the sovereign has appointed a new commission to undertake the reforming of abuses so far as may be within the power of the government.

The English critics of the Belgian government of the Congo state decline to accept the report of King Leopold's commission as a refutation of the charges which led to its creation, and one of the most notable of their number, Mr. E. D. Morel, in his journal, *The West African Mail*, fails to see, in the composition of the reform commission, any promise of the righting of the wrongs complained of. At the same time, the journal *La Vérité sur le Congo*, maintained for the defense of the Belgian cause, presents extracts from many reputable newspapers, in different countries, which have given the official report an entirely favorable reception.

THE APPOINTMENT OF AN AMERICAN.

[FROM THE NEW YORK "SUN," DECEMBER 11.]

KING LEOPOLD, the sovereign of the Congo Free State, has appointed R. Dorsey Mohun, an American, as director of the ABIR Congo company, one of the largest rubber concerns in that country. This company was the only commercial society in the state that was mentioned by name in the recent voluminous report of the Congo commission as having treated the natives with brutality. "In the posts of the ABIR company in the Mongalla district," says the report, "the imprisonment of women as hostages, flogging to excess, and various acts of brutality are not contested. It is the black spot on the history of Central African settlement."

Mr. Mohun was formerly our commercial agent at Loanda and later at Boma, the capital of the Congo State. In Central Africa he saw a large part of the war in which the black soldiers of the state, under their white officers, drove out and away the Arab slave raiders and put an end to slave catching in that large domain. When he came home he visited *The Sun* office and told of some of the stirring incidents in that long fight against the most terrible of African evils.

King Leopold has appointed a new commission to carry out the reforms recommended by the eminent body whose report is now in his hands. The appointment of Mr. Mohun, who has large executive ability and is thoroughly familiar with African conditions, to a place of unusual opportunity for the correction of past abuses, is one of the first steps taken.

"Commercial companies," said the commission's report, "should never be permitted to carry on armed expeditions, as was notably the case with the ABIR company." The American undoubtedly has a fine field before him in which to inculcate humanity as well as to stimulate commerce.

THE Dresden *Gummi-Zeitung* reports: "There is a lively demand for ladies' rubber cloaks this fall. The only complaint among manufacturers is that the grades of wool used for such cloaks have very considerably advanced in price, and that this is proving rather detrimental to the volume of sales."

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

FOR several years, it will be remembered, the National cycle show at the Crystal Palace has coincided with the Stanley, at the Agricultural Hall. This season there was only the Stanley show, but it found a powerful rival in the affections of the public in the great motor show at Olympia. I have no official figures to show how the attendance at the Agricultural Hall compared with former years, but from my own observations and from what I gathered from exhibitors I imagine that there was a distinct falling off. Of course there is more novelty about the motor business, which is yet in its infancy, and cycle shows cannot compete in this respect. Then the raucous tones of the gramophone and the elocutionary efforts of the purveyors of boot polish strike one as being somewhat foreign to the show as a business venture. The explanation of the presence of gramophones, toys, and other goods quite unconnected with cycling is that they are sold by cycle dealers in the dull season and form part and parcel of their regular stock in trade. The rubber manufacturing firms represented, in addition to those exhibiting at Olympia, were the Avon India Rubber Co., Limited, of Melkeham; F. Reddaway & Co., of Manchester (of Camel tire fame); W. & A. Bates, Limited, of Leicester; Capon Heaton & Co.; and the Gorton Rubber Co. The Silvertown company, The North British, Moseley's, the Continental, and Michelin were in evidence at both shows. To some extent the two shows overlapped, as there were motor tires to be seen at the Agricultural Hall, and the minor hall was wholly given up to motor cars, a fact probably explained by failure to obtain space at Olympia. The rapid advance of the motor car has caused the attention of inventors to be devoted to its interests to an extent which has caused cycling improvements to be somewhat neglected. A great deal for instance is heard of side slip contrivances for motor tires, but the matter is still an urgent one with regard to cycle tires, the various trials made by the authorities not having shown that the desired perfection has been attained.

S. AXELROD has an interesting paper on this subject in a recent issue of the *Gummi-Zeitung*. Without following the author through all his figures, I may be allowed to

remark on one or two points. In case any misapprehension should exist, I might emphasize that benzine with an *z* is quite distinct from benzene with an *e*. The former is a derivative or more correctly a constituent of petroleum while the latter is derived from coal tar. It is recognized that the latter has the better solvent action and one notices in motoring papers notices warning tire users that petrol cannot be used instead of benzene in cases where a semi solution of the rubber is desired. But to return to the main topic under notice, in a column showing the resinous constituents of the various rubbers experimented with, the figure for fine Pará hard cure is 3.4 per cent. while that for Ceylon Pará sheets is 8.6 per cent. The first is higher than is usually supposed, but the latter if really representative shows the Ceylon rubber to compare unfavorably with the native product in a direction which has not hitherto been so clearly demonstrated. Possibly the author's sample came from immature trees and must not be considered as representative. Except in the Pará figures there is nothing else in the column which is different to what I should have expected. The paper as a whole

has a scientific rather than a practical interest, and it is doubtful, to say the least of it, whether the ordinary works manager will stop by the way to ponder on the following sentence: "The degree of viscosity (η) and the percentage composition of the solution (p) are connected by the equation $\eta = c.p^r$, where c is a constant depending on the kind of rubber, and r the tangent of the angle which the curve drawn to the logarithms of the figures of the viscosity tables makes with the horizontal."

THE managing director informs me that the newspaper reports concerning the fire which occurred at the company's reclaimed rubber works at New Mills near Stockport, in November, were much exaggerated. The damage done only amounted to a little more than £1, and consequently no interference to the business resulted. Taking the opportunity afforded me of referring to business matters generally, I learned that it has been the object of late years to reclaim without the use of oil, and was shown some good quality rubber which was said to contain no oil at all. Of course oil has only been used because of its physical help in agglomerating the particles of vulcanized rubber, and if it can be dispensed with the product should show increased tenacity.

THE recent publication in the London papers of the name of Mr. T. Hancock Nunn, as a member of the Royal commission on the Poor laws has led several people to assume that the gentleman named is identical with the Mr. J. Hancock Nunn, who is proprietor of the Vulcanized Rubber Works at 266 Goswell road, London. This, however, I may say is not the case, though I am not prepared to say that there is no family connection. The trading name of the Goswell road rubber works is James Lyne Hancock, the present proprietorship being as above mentioned in the hands of Mr. J. Hancock Nunn. The name will be familiar to readers of Dickens, as it was from a local habitation that Mr. Pickwick, on looking out of the window remarked that Goswell street was on his right, Goswell street was on his left, and the opposite side of Goswell street was over the way. The business dates from 1820, its original founder being Thomas Hancock, of familiar memory in the trade. It can therefore claim to be the oldest established rubber business in the world, though only beating in this respect Messrs. Charles Macintosh & Co. by three years.

THE introduction of the rubber cored golf ball has transferred a good deal of business from the Gutta-percha manufacturers to the elastic thread makers. At first ordinary elastic thread was used; of late however a large demand has arisen for a broader count. This is made in the same way as elastic thread, that is, by calendering the rubber and sulphur dough on sheets. These are then vulcanized in steam, stripped, made into rolls and cut to the desired width of strip by the lathe. This material is now made by the ton and is noteworthy if only as one of the few new articles which the trade has been called upon so supply of late years. In general appearance this strip resembles what is sold as tape for electrical purposes, though this latter is unvulcanized. It is a common idea that the advent of the rubber cored golf ball has practically done away with the use of Gutta-percha in this connection. This, however, is not strictly true, as some balls at any rate contain a good deal more gutta than rubber

THE
STANLEY
SHOW.SOLUBILITY
OF RUBBER
IN BENZINE.GOLF BALL
RUBBER.

by weight. A mechanical analysis I recently made of one showed that out of a total weight of 33 grams rather less than 10 grams was due to the rubber strip. In this case there was a solid core as well as outer cover of gutta. I notice in a recent patent of the Perfect Golf Ball Co. that it is proposed to make the cover of Gutta-percha tape, so as to obtain more perfect adhesion to the core.

IMPROVEMENTS and increased competition have continually to be reported in the engine packing branch. Of late years American packings have been increasingly exploited in England, most of them possessing certain claims to novelty which attract the steam users' interest. My attention has lately been drawn to Daniels's "P. P. P." packing, made solely by the Quaker City Rubber Co., whose representatives in Great Britain are Ronald Trist & Co., of Coronation House, Lloyds avenue, London, E. C. From all appearances India-rubber, asbestos, plumbago, and other common constituents of steam packings enter into its composition, but I understand that the chief claim for novelty and efficiency lies in the mode of construction, whereby it is enabled to resist high pressures of steam in an effective manner. The booklet issued by the Quaker City Rubber Co. gives a good deal of information of interest to engineers, being the most complete brochure on the subject which I have come across. Reports from a works in the north of England using superheated steam state that it stands a temperature of 700° F. successfully. For a fibrous packing it is claimed that it is the only one which has the particular action which causes a variation in the pressure, and consequently in friction on the piston rod strictly in proportion to the pressure of steam existing at any moment in the cylinder.

It has often formed matter for comment that such a valuable commodity as raw rubber should be bought by inspection only of samples without the ancillary assistance of chemical analysis. Yet there are solid reasons against any change in present procedure. In the case of rubber scrap the amount of money involved is not so great, but still it is recognized by purchasers that it is very difficult to accurately gage the value of any particular lot, especially of mechanical rubbers. The main safeguard which it is now customary to employ is in the form of a negation. The purchaser stipulates that the rubber shall not contain certain defined goods or qualities. Thus in drab waste, it is stated that no rubber toys are to be included, and this not so much from the common quality of the rubber as from the point with which it is adorned. It is obvious that chemical analysis to be of any real benefit would have to be on a scale and consequently involve an expense which puts its adoption as a precautionary outside consideration. Probably the best course to pursue in the interests of both seller and buyer is to adopt sorting and classification to an increased extent, and already much more is being done in this direction than was the case a few years ago.*

OF late the specification of this article has undergone some change. It was formerly compulsory to destroy the adhesiveness of the rubber tape by a slight cold cure, a job that was always an unpleasant and ticklish one, in order to prevent the sulphur rising above the low limit specified. Now this partial cure is not demanded. Another alteration is the substitution of cotton tape in the rolls instead of paper. This is a white tape and has nothing in common with the red variety with the possession of which the War office is so commonly credited. This class of business does

DANIELS'S
PACKING.

WASTE
RUBBER
VALUATION.

WAR OFFICE
TAPE.

not cause much enthusiasm among the manufacturers. The profits of this, as also in other government contracts, are not considered at all commensurate with the trouble of keeping strictly to specification, and this sending in of tenders is more often than not influenced by considerations other than expectation of profit.

OUR London contemporary in a recent issue reprints with suitable comments a letter from a new technical journal on the subject of adulteration in rubber goods. In a spirit of kindness that journal refrains from giving any details as to the name of the paper or the writer's identity. Had the letter come under my notice in the first instance, I don't think I should have shown any scruples in pillorying the author of such a farrago of nonsense. By careless readers hypothesis is often mistaken for fact, and the dubiousness of argument from analogy is frequently overlooked. It is often said that practical men can afford to smile at what they read in print concerning their industries, but I don't altogether agree with this. It is astonishing in these days of scissors and paste how a paragraph with anything novel or superficially attractive about it goes the rounds and grotesque perversions of the truth may easily do harm to a reputable industry. From these considerations I take it that it is not only within the province of trade journals to pillory offenders against the tenets of accuracy but it becomes essential on behalf of those whose interests they subserve.

A MEETING of the joint committee of the dissenting ordinary and deferred shareholders was held on December 6 in Dublin.

DUNLOP
REORGANIZATION.

Mr. Du Cros made various propositions with regard to the reduction of capital, the original scheme, it will be remembered, not having met with the approval of the necessary number of shareholders. In the end it was decided to submit the new proposals for counsel's opinion before doing anything further.

A FRIEND of mine who lately returned from a prolonged tour in South America has interested himself in the rubber forests. He finds, however, with regard to the concessions which he has obtained that English capitalists look askance at his proposals to engage their interest and assistance. My friend confirms the statement that a large proportion of the output of Peruvian rubber figures in the statistics for Manáos. At present it is about fourteen days mule carriage to ship the rubber from the principal producing centers to the Pacific ports and the lack of labor which has so long militated against the exploitation of the country's resources is still being acutely felt. Of course the value of forest concessions in regions where there is no bar to general gathering can easily be overestimated and there is always the chance of private rubber being annexed by gatherers who are not troubled with scruples. I imagine that the necessity of maintaining an efficient police force must continue to discourage the prospective *concessionnaire*.

MR. CHARLES COOPS, who was originally in the employ of Messrs. Charles Macintosh & Co., being subsequently manager of the Eccles Rubber Co., is now acting as London representative of Messrs. Adler, of Coventry, Amsterdam, and Cologne. This firm has the sole agency for the sale of Messrs. Macintosh's tires on the continent and are also at liberty to sell in Great Britain, though in this case they have no monopoly.

MALAY STATES.—The big Chinese firm, Chow Kit & Co., at Kuala Lumpur, advertise motor car tires from "The Goodyear & Rubber Co.," but this name is not acknowledged by any firm in the trade known to this Journal.

*Such classification is in the rule in the American trade, under conditions which become generally recognized, and with satisfactory results.—THE EDITOR.

RUBBER PLANTING INTERESTS.

THE BRITISH BORNEO PARA RUBBER CO.

THIS company was formed last April in Glasgow, Scotland, with £30,000 [= \$145,995] capital, to acquire from J. Melmore Halliday a concession of land granted by the British North Borneo Co. Mr. Halliday has had 17 years' experience as a planter in the Far East and has become manager of the new company. The concession covers 2000 acres, near Beaufort, in Province Dent, of which 200 had been cleared by September 18, on which date occurred the first planting, from nurseries formed by Mr. Halliday. The two first seedlings were put in place by the Governor and Mrs. Gueritz, each of whom had been provided with a tastefully decorated spade. Luncheon was served to his Excellency's party in the manager's house, and the hope expressed that the governor would be present at the first tapping, six years later. THE INDIA RUBBER WORLD of November, (page 48) reported the presence of the Governor and Mrs. Gueritz at the initial tapping of rubber on the Sekong estate, British North Borneo.

RUBBER PLANTING PROSPECTS IN JAMAICA.

MR. ROBERT ELWORTHY of Linstead, Jamaica, writes to THE INDIA RUBBER WORLD that there is much land on that island suitable for rubber culture, but as in Nicaragua planters have hitherto given attention almost exclusively to bananas. They are at last beginning, however, to realize the importance of rubber, and it is probable that the demand this year for seeds and plants will be far greater than can be met by the local department of agriculture. There are a few pioneers in this new culture in Jamaica, and their success so far—some of them have trees nearly old enough to tap—has been the means of encouraging others to plant. The species grown is *Castilloa elastica*, and Mr. Elworthy considers his 5 year old trees to be equal to any of the same age in Mexico.—The Jamaica public gardens for some time past have been selling rubber seeds and plants to local planters.

YIELD OF PLANTATION RUBBER.

TO THE EDITOR OF THE INDIA RUBBER WORLD: In the month of June I had about 400 cultivated rubber trees (*Castilloa elastica*) tapped, which yielded about 2 quintals [= 202.8 pounds] of clean rubber, averaging therefore $\frac{1}{2}$ pound from each tree. I could have had one pound from each tree extracted, but did not want to do so lest the trees might be injured. These trees are from 6 to 7 years old and were originally planted as shade among cacao trees. The rubber thus obtained I sold here in San Jose and was paid the price of 135 colones per quintal, equal to about \$62.80 United States gold, or 62 cents per pound. Faithfully yours, H. HOPPENSTADT.

San Jose de Costa Rica, October 6, 1905.

"CEARA" RUBBER IN CEYLON.

ALTHOUGH the *Hevea* and *Ficus* species receive by far the greater amount of attention among planters of rubber in Ceylon, the Ceará tree (*Manihot Glaziovii*) has not been overlooked. At the last shareholders' meeting of The Ceylon Land and Produce Co., Limited, the chairman mentioned the recent planting of *Hevea* and *Castilloa*, also stating: "Those of the Ceará trees planted years ago that now remain are flourishing. You will have noted that we handled a few hundred pounds last year at a very handsome price, and we will doubtless collect an increased quality during this season at a lower cost." At the meeting of The Consolidated Estates Co., Limited, it was stated that 131,000 rubber trees had been planted among their tea, several thousand of which were nearly ready for tapping. Most of the land had been planted with Pará, but they were now

trying *Castilloa* and Ceará varieties on Warriagalla estate as an experiment. At a recent London auction *Manihot* rubber from Ceylon sold at 5s. 10d. [= \$1.42] per pound.

CEYLON "PARA" RUBBER IN DRY WEATHER.

A CORRESPONDENT of THE INDIA RUBBER WORLD, writing from Ceylon under date of October 12, said:

"The sou'west monsoon was a total failure in Ceylon this year, seriously affecting the rubber estates. The *Hevea* likes a drought, no doubt of that, and the following rains bring up the latex wonderfully; but the flow and the yield in dry rubber is less in time of drought. But it was young clearings that suffered; seed at stake plants failed, necessitating replanting and many young stumps or tender basket plants died. Now the rains are on again and planting is going forward briskly. The seed crop this year has been a phenomenal one, and small fortunes already made out of it—that was due to drought, the seed setting well."

RUBBER FROM "CAMP PEARSON."

A RECENT number of THE INDIA RUBBER WORLD [April 1, 1905—page 233] contained an article showing photographs of buildings at Camp Pearson, on the property of the Boston-Panama Co., in Panama. Recently rubber from that camp has begun to arrive in the United States, which has sold as high as \$1.25 a pound. As this is from wild *Castilloa* trees, and as the product formerly brought only 80 cents a pound, the difference between the native method of preparing the rubber and the cleanly methods of preparation and coagulation that are now in use is most apparent. The chemical analysis of a sample from a recent lot is as follows:

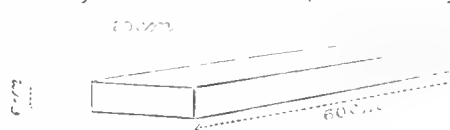
Resinous matter	6.0
Ash .....	.2
Moisture	2.8
Rubber	91.0
Total	99.0

* * *

DIRECTOR Emil Spannagel, of the Vereinigte Berlin-Frankfurter Gummiwaaren-Fabriken (Berlin), having followed the course of rubber planting with much interest for a number of years, has taken an interest in a large company which is engaged in planting the *Kickxia elastica*, together with cacao, in Kamerun, the company being the Kautschuk-Pflanzung "Me-anja" Aktiengesellschaft, with offices in Berlin and Victoria. [See THE INDIA RUBBER WORLD, February 1, 1904—page 166.]

DR. ESCH ON "CASTILLOA" RUBBERS.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I beg to inform you that, in the translation of my paper on "Caucho and Castilloa Ulei Warburg" [See our issue of November 1—page 43], the term *brote* must not be rendered "loaves," because the said "brote" like shape is similar to the ordinary Matto Grosso Pará; that is to say, they have the form



indicated in the sketch here-with. Further, I beg to state that Mr. W.

Villinger, of Antwerp, who has a fleet of steamers in Bolivian and other rubber districts, gave me particulars which indicate that the conclusions in the said paper are for the most part correct. I shall endeavor to complete my article by the statements of other explorers. Faithfully yours, DR. WERNER ESCH.

Hamburg, November 19, 1905.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values of exports of manufactures of India-rubber and Gutta-percha, for the month of October, 1905, and for the first ten months of five calendar years:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
October, 1905	\$102,167	\$114,600	\$ 243,905	\$ 460,672
January-September.	856,493	944,494	2,127,300	3,928,287
Total	\$958,660	\$1,059,094	\$2,371,205	\$4,388,959
Total, 1904	724,916	988,025	1,976,519	3,690,460
Total, 1903	710,825	790,903	2,690,363	3,592,591
Total, 1902	590,272	865,711	1,659,205	3,121,188
Total, 1901	502,204	733,329	1,440,176	2,775,769

MEXICAN IMPORTS OF RUBBER GOODS.

THE latest report of the British consul for the district of Vera Cruz, Mexico, gives the following figures as representing the value of manufactures of Caoutchouc into Mexico for four years, the bracketed figures, showing the equivalents in United States currency, being supplied by THE INDIA RUBBER WORLD:

Fiscal year 1900-01	£25,640	[\$124,866.80]
Fiscal year 1901-02	22,375	[108,956.51]
Fiscal year 1902-03	27,532	[134,080.84]
Fiscal year 1903-04	32,224	[156,930.88]

In this connection may be mentioned the official statement of values of exports of India-rubber goods from the United States to Mexico for five fiscal years:

YEARS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
1899-1900	\$ 82,433	\$1,043	\$ 47,358	\$ 130,834
1900-01	113,624	2,526	91,786	207,936
1901-02	124,733	1,455	92,222	218,410
1902-03	146,035	2,609	160,325	308,969
1903-04	137,608	1,553	146,712	285,873
Total	\$604,433	\$9,186	\$538,403	\$1,152,022

German official statistics do not indicate the value of exports of rubber goods to Mexico, and mention the quantities (by weight) of only the principal classes. From a statement for the first nine months of three years the following figures have been compiled, showing weights in pounds avoirdupois of exports to Mexico:

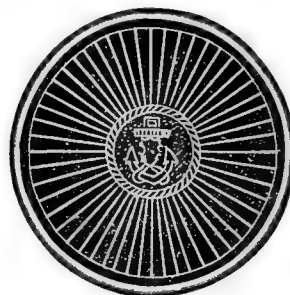
	1903.	1904.	1905.
Hard rubber goods	18,260	26,180	17,160
Principal classes soft rubber	44,440	41,580	79,640

Austria also exports rubber goods to Mexico, though to what extent cannot be determined from official sources. During January-September, 1905, however, Austrian exports to Mexico are stated to have included 88,880 pounds (in weight) of elastic shoe insertions.

RUBBER ON THE STEAMER "AMERIKA."

THE great new steamship, the *Amerika*, of the Hamburg-American line, as might be expected, is exceedingly well equipped with rubber goods. The largest single use of rubber is in the shape of matting and tiling, the five decks, "Kaiser," "Roosevelt," "Cleveland," "Washington," and "Franklin" all receiving their quota, although not so much was given to the author of "Poor Richard" as to some of the others. The treads are of various textures and colors, the best being the deeply corrugated treads used on the stairs leading from the "Kaiser" deck, and the square pyramidal treads on

the stairs that lead from the main to the upper smoking room. The worst exhibition of the rubber art was the tiled floor of the smoking room, which was done in three colors, light red, dirty white, and chocolate. The colors were very uneven, and the alleged white was not nearly cured and was scarred very badly. The extensive corridors on the various decks were covered with rubber in black and white squares, which was very pretty, but a trifle too smooth. The main staircases were covered with white rubber, which was perfectly smooth, and as it was constantly being washed, made walking perilous, particularly if the boat rolled or pitched. In addition to these were a great variety of lesser rubber appliances, such as big rubber cushioned door stops; square white mats in each cabin to protect the carpet from slopping, supposing anybody cared to bathe; and very



BOTTLE OR MUG MAT.

pretty red mats on the smoking room tables on which to set apollinaris bottles and the like. This covers, of course, rubber that is in sight, and takes no account of the valves, packings, hose, and engineering supplies of that sort.

RUBBER COIN MAT NOVELTIES.

THE average American is pretty sure that he knows all about cash mats, but a very casual analysis of his knowledge would easily prove that it was confined almost wholly, as far as markets go, to the United States. The German manufacturers, however, are making mats in many styles, not only for Germany, but for the whole world; that is, where they are applicable. The Vereinigte Berlin-Frankfurter Gummiwaren-Fabriken, for example, make half a dozen different types—square, round, and octagonal—with surfaces that are either finished in rubber spikes, pyramids, or rings, and that are often furnished with very pretty nickel borders, and sometimes with tin borders on which are printed gorgeous and even attractive advertisements.

A curious bit of information concerning the market for cash mats was developed soon after the company began to seek the world's trade. It was found that in Italy and Spain, and in some Latin American countries, where there is often a question as to the integrity of the silver or gold coins that the customer pays, the cash mat is not welcomed, both buyer and seller preferring to have a resonant counter on which they can ring the coin to prove its genuineness.

BALLOONS IN THE WEATHER SERVICE.

IT is well known that the weather bureaus the world over—French, German, Russian, English, and American—have certain experiment stations which work in conjunction and try experiments at the same time. One very interesting experiment is the sending up of rubber balloons about 5 feet in diameter, to which are attached thermometers and other instruments which are self registering, the balloons being allowed to go as high as they will until they finally burst. It is an interesting fact that all of these balloons are made in Germany, by the Continental-Caoutchouc- und Guttapercha Compagnie (Hannover). While the writer was at the factory of this company recently a shipment of 50 of these balloons went to a German steamship that was starting off for a voyage around the world to get hydrographic data.

RECENT RUBBER PATENTS.

UNITED STATES OF AMERICA.

ISSUED OCTOBER 31, 1905.

- N**O. 802,982. Hoze nozzle. H. Gibbs, assignor to W. D. Allen Manufacturing Co., both of Chicago.
- 803,011. Tire for vehicle wheels. [Solid; combined with undercut channelled rim, and special retaining wires] C. Motz, Akron, Ohio.
- 803,053. Tire. [Pneumatic; with reinforced casing and special supporting felly.] H. G. Fiske, assignor, by mesne assignments, to Morton Trust Co., both of New York city.
- 803,095. Fire hose apparatus. [For interior fire protection equipment.] E. Cliff, East Orange, N. J., assignor to Cliff & Guibert Co., New York city.
- 803,127. Hose coupling. C. T. Palmer, Chicago.
- 803,128. Hose coupling. *Same*.
- 803,170. Atomizer or nebulizer. O. C. Knight, assignor to The National Vaporizer Co., both of Kalamazoo, Mich.
- 803,211. Horseshoe cushion. P. Clifford, assignor of one half to D. J. Corbett, both of Buffalo, N. Y.
- 803,219. Hoof pad. W. B. Fairweather and G. Duffield, Chicago.
- 803,326. Vehicle wheel [with tire composed of short segmental links having elastic cushions between them.] J. M. Carpenter, Millersburg, Ohio.
- 803,344. Horse collar [with inflatable pads]. J. S. Hull, Manly, near Sydney, New South Wales.
- 803,345. Pneumatic tired wheel. T. B. Jeffery, Kenosha, Wis.
- 803,367. Cushion tire. C. G. Shaw and W. J. Shaw, Los Angeles, Calif.
- 803,500. Vehicle wheel [with cushion tire]. W. J. Mitchell and J. R. Mitchell, Lynn, Mass.
- 803,501. Vehicle wheel [with cushion tire]. *Same*.
- 803,510. Pneumatic tire. W. A. Sanky, Sutton, assignor to F. Reddaway, Pendleton, Manchester, England.

Trade Marks.

176. India-rubber tires, solid and pneumatic, and India-rubber cover bandages, repair sheets, plasters, and patches for such tires. Continental Caoutchouc Co., New York city. *Essential feature*.—The word CONTINENTAL.
- 4,488. Rubber composition and joint packing. The Garlock Packing Co., Palmyra, N. Y. *Essential feature*.—The representation of a pair of calipers crossed by a measuring scale, between which appears a diamond shaped figure containing the word GARLOCK.

ISSUED NOVEMBER 7, 1905.

- 803,658. Cycle tire. A. S. Allen, Brookline, Mass.
- 803,659. Pneumatic tire [with tread protected by coils of wire]. *Same*.
- 803,927. Fountain pen. E. Reisert, Hennef, Germany.
- 803,989. Armored tire. C. W. Caterson, Franklin Forks, Pa.
- 804,086. Womb supporter [comprising a tube of flexible material coiled upon itself to provide two substantially frusto conical members united at their ends of smallest diameter; and a device for permitting inflation of said tube]. M. J. Barchfeld and F. C. Hunt, Girard, Ohio.
- 804,088. Pneumatic tire. M. H. Blakeslee, assignor of one half to R. D. Baker, both of Buffalo, N. Y.

Reissue.

- 12,402. Vehicle tire. H. Lutz, assignor of two fifths to B. Harris, both of Hamilton, Canada.

Trade Marks.

324. Rubber overshoes. The Adams & Ford Co., Cleveland, Ohio. *Essential feature*.—The word EVERSTICK in which there is an extended flourish under the body of the word from the initial to the final letter.
- 9 006. India-rubber auto-bags and auto-pouches. Continental Caoutchouc Co., New York city. *Essential feature*.—The word CONTINENTAL.

ISSUED NOVEMBER 14, 1905.

- 804,218. Gymnastic apparatus. R. Fiedler, Berlin, Germany.
- 804,226. Horseshoe [with elastic bottom plate]. H. Henne, Düsseldorf, Germany.
- 804,272. Respirator [with valve-controlled air inlet and outlet]. W. Schwartz, Pforzheim, Germany.

- 804,368. Resilient tire. [Pneumatic] W. F. Beasley, Plymouth, N. C.
- 804,369. Resilient tire. [With core of longitudinal truss walls.] *Same*.
- 804,406. Finger shield [and supporting strap]. Daisy Hungad, Rochester, N. Y.
- 804,407. Syringe. [Fountain syringe with supporting frame for the bag.] A. B. Jamison, New York city.
- 804,574. Jar closure [embracing a resilient washer]. T. Beatty, Washington, Pa.
- 804,584. Syringe. [Vaginal.] C. J. Davol, Providence, R. I., assignor to Davol Rubber Co.
- 804,605. Vehicle wheel [with cushion tire]. G. G. Jackson, Allegheny, Pa.
- 804,613. Vehicle tire. [Pneumatic.] Frank A. Magowan, Trenton, N. J.
- 804,680. Scalp massage brush. R. M. Smith, Chicago.
- 804,701. Pneumatic tire. O. M. Bigger, Holt, Cal.
- 804,750. Operating pad or receptacle [comprising a bottom and an inflatable cushion wall]. C. W. Meinecke, Jersey City, and D. Hogan, Hoboken, N. J., assignors to Whitall Tatum Co., New York city.
- 804,772. Vehicle tire. [With core formed wholly or in part of rubber coated yarns.] F. G. Saylor, Franklin, Mass., assignor to M. and S. Tire Co., Boston.

Trade Mark.

- 10,725. Fabric hose. Eureka Fire Hose Co., Jersey City, N. J. *Essential feature*.—The words EUREKA PEERLESS.

ISSUED NOVEMBER 21, 1905.

- 804,847. Fountain pen. J. Holland, Cincinnati.
- 804,850. Article of manufacture comprising leather and rubber bodies. C. L. Ireson, Boston.
- 804,851. Method of attaching rubber to leather. *Same*.
- 804,852. Resilient tire. [Pneumatic; with leather wearing tread.] *Same*.
- 804,853. Method of attachment of rubber and leather. *Same*.
- 804,854. Art of vulcanizing leather and rubber. [Adapted to the tire manufacture.] *Same*.
- 804,855. Leather wearing tread for resilient tires. *Same*.
- 804,891. Vehicle tire [composed of concentric alternate layers of rubber and fiber]. A. J. Slade, New York city.
- 804,892. Protective tread for pneumatic tire. J. M. Small, Piqua, Ohio.
- 804,896. Vehicle tire and rim. W. C. State, Akron, Ohio, assignor to the Goodyear Tire and Rubber Co.
- 804,992. Hose coupling. A. Anderson, Chicago.
- 805,023. Garden hose support. J. McBoyle, Oakland, Cal.
- 805,088. Cushion heel. W. T. McLaughlin, Boston.
- 805,132. Baseball bat [with corrugated rubber grip]. W. F. Gubbins, Chicago.
- 805,339. Syringe. [Vaginal; spray tube provided with a series of distending fingers.] J. J. Brin, Chicago.
- 805,371. Ice helmet. C. W. Meinecke, Jersey City, and D. Hogan, Hoboken, N. J., assignors to Whitall Tatum Co., New York.
- 805,410. Horseshoe [with elastic cushion]. J. H. Carey, Hartford, Conn., Mary A. Carey, administratrix of said J. H. Carey, deceased.

Designs.

- 37,684. Mat. A. J. O'Brien, assignor to New Jersey Car Spring and Rubber Co. *Claim*.—The ornamental design for a mat as shown.
- 37,686. Nebulizer. A. C. Eggers, New York, assignor to Goodyear's India-rubber Glove Mfg. Co. *Claim*.—The ornamental design for a nebulizer as shown.

ISSUED NOVEMBER 28, 1905.

- 805,434. Vehicle tire. [Cushion.] L. E. Allen and W. J. Poyser, Canton, Ohio.
- 805,474. Means for inflating rubber tires. A. G. Lavertine and J. E. McNellan, Johannesburg, Transvaal.
- 805,503. Vulcanizing hard rubber articles having interior cavities. H. O. Traun, Hamburg, Germany.
- 805,511. Device for supporting fire hose, life preservers, etc. T. F. Adams, New York city.
- 805,528. Vehicle wheel [with rope tread tire]. E. Cantono, Rome, Italy.
- 805,591. Non puncturable tire. L. A. Davidson and J. M. Logan, Hartford, Conn.

- 805,606. Bridle bit [covered with rubber]. H. T. Werk, Cleveland, Ohio.
- 805,744. Hose coupling. J. F. McElroy, Albany, N. Y., assignor to Consolidated Car Heating Co.
- 805,750. Hat and cap [having a pneumatic expansible pad with means for inflation]. M. Redgrave, Jersey City, N. J.
- 805,826. Vaginal irrigator. M. Vidaver, New York city.
- 805,851. Medicinal injector [comprising a tube and compressible bulb]. N. J. Goldfarb, Düsseldorf, Germany.
- 806,013. Means for securing pneumatic tires to rims of wheels. S. Smith, Providence, R. I.

Trade Marks.

- 6,073. Rubber heels and soles. Massachusetts Chemical Co., Boston. *Essential feature.*—The words CAT'S PAW.
- 9,280. Rubber for dental purposes. Traun Rubber Co., New York city. *Essential feature.*—The representation of a man in the act of throwing stones, the lower limbs of said man terminating in snakes.
- 13,562. Golf balls. A. G. Spalding & Bros., New York city. *Essential feature.*—The representation or a spot or dot of color contrasting with the surface color of the goods on which it is placed.
- 13,715. Insulating tape. The Standard Paint Co., New York city. *Essential feature.*—The representation of a peacock with his tail spread out within a circle, in which also appear the letters S P C. This is surrounded by a black ring on which appears at the top the word PEACOCK.

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1904.

* Denotes Patents for American Inventions.

[ABSTRACTED IN THE OFFICIAL JOURNAL, OCTOBER 25, 1905.]

- 14,884 (1904). Vehicle wheel [with rubber or pneumatic springs instead of metal]. J. S. Phillips, Swords, Dublin.
- * 14,920 (1904). Pad for gilding [of porous rubber]. W. H. Cobb, Providence, Rhode Island.
- * 14,957 (1904). Pneumatic tire. [To facilitate attachment and removal of covers a flat rim having a flange at each edge is secured to the felloe by bolts.] G. H. Sherman and A. T. Sherman, Detroit, Michigan.
- 14,965 (1904). Pneumatic tire. [Puncture and slip preventing cover formed of a band of leather, furnished with rivets on the tread and notched to form tongues to which are fitted metallic hooks engaging fixing wires.] A. Beaujon, Paris.
- 15,031 (1904). Elastic tire [with an inner rim and an outer rim of considerably greater diameter]. R. Basch and S. Basch, London.
- 15,039 (1904). Brush [made of fiber, India-rubber, etc., and fixed to holders so that they can be inserted through bungholes and used to clean the interior of casks]. H. C. Russell, London.
- * 15,064 (1904). Syringe [having a series of expansible fingers so constructed as to be easily taken apart]. E. E. Hall, Chicago, Illinois.
- 15,097 (1904). Means for repairing tire punctures. H. Harrison, Birmingham.
- 15,140 (1904). Reservoir pen. [Two ink ducts are provided in the plug holding the nib; one supplies ink to the top of the nib, the other to the underside.] E. de La Rue, London.
- 15,168 (1904). Reservoir pen. J. S. Crowley, London.

[ABSTRACTED IN THE OFFICIAL JOURNAL, NOVEMBER 1, 1905.]

- 15,280 (1904). Pneumatic tire. [Cover formed of casings of flexible metallic fabric capable alone of resisting pressure in air tubes.] C. Joly and R. Boucher, London.
- 15,299 (1904). Valve for inflating tires. E. E. Michelin, Clermont-Ferrand, France.
- 15,436 (1904). Regenerating India-rubber. [Powdered vulcanized rubber is mixed with sulphur-absorbing compounds of the alkalies, compressed into cakes, and heated.] A. Kittel, Vienna, Austria.
- * 15,451 (1904). Pneumatic massage apparatus applicable to the ear. F. H. Crabtree, Anaconda, Montana.
- 15,613 (1904). Pneumatic tire. [Anti-skidding device—strip of metal gauze secured by wire stitching to outer chain-mail covering.] E. N. Lawley, London.
- 15,644 (1904). Heel protector. J. Hanlon, Liverpool.
- 15,660 (1904). Heel protector. G. Morton, Manchester.

[ABSTRACTED IN THE OFFICIAL JOURNAL, NOVEMBER 8, 1905.]

- 15,715 (1904). Hoof pad [with frog attached to pad by studs formed and fitted into holes in the pad]. H. T. Pearce, Stroud.
- 15,842 (1904). Brush [fitted with self-feeding means for supplying liquid]. A. L. Tyerman, Liverpool.
- 15,863 (1904). Elastic tire [consisting of rubber blocks fitted in separate metal shoes secured to the rim by a series of bolts]. M. H. Smith, London.
- 15,970 (1904). Heel protector. J. L. Penny, Wolverhampton, and J. E. McFarlane, East Riding, Yorkshire.
- * 15,984 (1904). Pneumatic tire. [With flexible reversible tread to prevent slipping and adapted for driving wheels. H. de L. Weed, Canastota, and J. S. Pickell, Syracuse, New York.
- 15,999 (1904). Waterproof sole for slippers. H. Hargreaves, Bolton, Lancashire.

[ABSTRACTED IN THE OFFICIAL JOURNAL, NOVEMBER 15, 1905.]

- 16,134 (1904). Horseshoe with rubber projections. T. Wood, Charlton-on-Medlock, Manchester.
- 16,143 (1904). Boot sole and heel. J. Newton, Longton, Staffordshire.
- 16,378 (1904). Golf ball [with core wound from rubber tubing, sealed at the end and containing compressed air]. T. Harvey, Waterville, Ireland.
- 16,385 (1904). Pneumatic tire [having a removable rim which carries the outer cover]. F. Courthope, Middlesex.
- * 16,458 (1904). Elastic tire [with side extensions around which are placed rings to hold the tire in the rim]. B. F. Kenna, Philadelphia.
- 16,518 (1904). Reservoir pen. L. C. Sloan, London.

[ABSTRACTED IN THE OFFICIAL JOURNAL, NOVEMBER 22, 1905.]

- 16,629 (1904). Heel protector. H. B. Morrison, Singleton, New South Wales.
- 16,632 (1904). Waterproofing composition for boots. [Gutta-percha and tar.] L. Levy, Cologne, Germany.
- 16,660 (1904). Pneumatic tire [with method to stop punctures]. E. Richard and J. Joussame, Bordeaux, France.
- 16,681 (1904). Pneumatic tire [with leather band to prevent side slip]. W. S. Cort and W. H. Stevens, Market Harborough.
- 16,697 (1904). Pneumatic tire [with metal studs to prevent side slipping]. C. H. Wilkinson, Huddersfield.
- 16,802 (1904). Feeding appliance for animals. [A tank with rubber teats arranged therein.] J. D. Macmillan and C. Campbell, County Queens, Ireland.
- 16,849 (1904). Pneumatic tire [with flexible metallic bands to prevent side slip]. H. Ellison, Cleckheaton, Yorkshire.
- 16,866 (1904). Heel protector. W. Sagar, J. Sagar, I. Ingham, Padiham, Lancashire, and E. D. Little, Blackburn.
- 16,870 (1904). Elastic tire. [Annular rings of rubber secured by bolts to the rim.] J. Richardson, South Park, Lincoln.
- 16,924 (1904). Golf ball. [The core is wound from heated strips of rubber coated with a suitable solvent, after which the core is covered with Gutta-percha.] C. T. Kingzett, Chislehurst.
- 17,006 (1904). Means for inflating pneumatic tires. P. Rupp, Würtemberg, Germany.
- 17,015 (1904). Rubber tiling. [Made antiseptic by the inclusion of 1 to 10 per cent. or other proportions of carbolic acid, chloride of lime, or the like. The tiles can be used on shipboard or in lavatories.] C. H. Gray, India Rubber, Gutta-Percha, and Telegraph Works, Silvertown.

[ABSTRACTED IN THE OFFICIAL JOURNAL, NOVEMBER 29, 1905.]

- 17,135 (1904). Heel protector. G. L. Scott, Rochdale.
- 17,208 (1904). Golf ball. [Made by impregnating woolen yarn with rubber solution and winding it upon a core.] P. Cruickshank, Edinburgh.
- 17,216 (1904). Valve for inflating tires. E. Kudell, Cöln, Germany.
- 17,233 (1904). Tire inflator. Dover, Ltd., and H. W. Dover, St. James, Northampton.
- 17,285 (1904). Electric insulator [with inner cap and shield of hard rubber]. F. G. Kleinstaub, Pankow, near Berlin.
- 17,289 (1904). Apparatus for repairing tires, boots, etc. A. S. Bowley, Putney, Surrey, and T. W. Hammer, Uckfield, Sussex.
- * 17,313 (1904). Devulcanizing India-rubber. [By the use of an alkaline solution.] R. B. Price, Chicago, Illinois.
- 17,342 (1904). Sole and heel protector. H. W. Bernthal, Chatham.
- 17,495 (1904). Non slipping puncture proof jacket of steel for pneumatic tires. C. F. and C. Watson, Holloway road.

17,518 (1904). Vehicle wheel [having two tires side by side, to prevent slipping]. A. W. Prentice, Cambuslang, Lanarkshire, and A. Shiels, London.

17,555 (1904). Golf ball. [Ground cork impregnated with a solution of rubber is put into naphtha, dried, heated, and molded to form the core; outer cover formed of rubber.] J. Macneil, Glasgow.

PATENTS APPLIED FOR—1905.

Space is given here only to Applications for Patents on Inventions from the United States.

- 21,540. Thomas Midgely, London. Improvement in tires. Oct. 23.
22,815. Charles A. Davol, London. Improvement in syringes. Nov. 7.
23,894. C. J. Barrell, London. Protective cover for tires. Nov. 20.
23,886. S. H. Hodges, Leicester. Fountain pen. Nov. 20.

THE FRENCH REPUBLIC.

PATENTS ISSUED (WITH DATES OF APPLICATION).

- 354,541 (May 23, 1905). G. S. Squires. Carriage tire.
354,574 (May 24). A. D. Zurenger. The use of webbing in the Caoutchouc manufacture to make the product untearable, and to preserve its elasticity.
354,642 (May 25). G. Kaulhausen. Protecting device for pneumatic tires.
354,653 (May 25). E. Lapisse. Protector for pneumatic tires.
354,654 (May 25). E. Lapisse. Clamping device for pneumatic tire protectors.
354,671 (May 26). Bowly and Runyon. Tire in sections.
354,677 (May 26). Sadler. Tire for motor cars.
354,659 (May 26). J. Gibernon. Pneumatic horse collar.
354,455 (April 5). G. Desclée. Fitting device for pneumatic or other rubber tires.
354,684 (May 26). Dessaint and Toquillon. Decorticating machine for lianes and rubber roots.
354,723 (May 27). Société Michelin et Cie. Process for making leather protective covers for pneumatic tires.
354,727 (May 27). F. Franck. Braces (suspenders) with elastic attachment.
350,113 (April 11). B. Roux. Process for the manufacture of tubing and hose from reclaimed rubber.
354,914 (April 11). Penavayre and Lunis. Buff leather movable protector for tires.
354,975 (June 6). McKim. Pneumatic tire.
354,883 (June 3). J. M. Jacquemin. New application of India-rubber to certain parts of footwear.
354,988 (June 6). C. Pierson. Tubes for inflating tires.
355,016 (June 7). P. Germain. Rubber treated artificial silk.
355,017 (June 7). P. Germain. Vulcanizing and reclaiming process for Caoutchouc.
355,057 (April 19). Mme. Eruchet. Protector for pneumatic tires.
355,092 (June 8). C. Motz. Elastic tire.
355,108 (June 9). J. Leprière. Removable air tube for pneumatic tires.
355,257 (June 15). G. H. C. Allié. Pneumatic tire.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Bobet, Ingenieur-Counsel, 16 avenue de Villiers, Paris, at 50 cents each, postpaid.]

WHY DO BUSINESS WITHOUT A PROFIT?

TO THE EDITOR OF THE INDIA RUBBER WORLD: The manufacturers whose principal raw materials consist of rubber and cotton are confronted with the prospect of continued high prices for raw material. Will they have sufficient courage to advance their selling prices high enough to enable them to make a fair manufacturer's profit, or will they wait until the weak ones fail and the weary ones become tired?

In the leather boot and shoe business the tanners of leather have been told by the shoe manufacturers year after year that they should not advance the price of leather, because it would injure the shoe manufacturer, for the price of shoes could not be advanced.

Experience has shown that, after some of the weak ones had

failed, and others had become weary and retired from business, the demand for shoes equalled the supply, and then the shoe manufacturers found out, to their surprise, that they could advance the price of shoes, and they did.

Why should you do what you don't want to, when you don't want to?

Boston, December 8, 1905.

J.

AIR BRAKE HOSE ON FREIGHT TRAINS.

AT the hearing of railroad men before the Interstate Commerce Commission, in regard to air brake hose, mentioned in THE INDIA RUBBER WORLD last month (page 91), F. H. Clark, general superintendent of motive power of the Chicago, Burlington, and Quincy Railroad Co., testified:

In order to illustrate the effort being made by railroads to equip their cars, I would state that a rule was passed on June 1, 1905, by the Master Car Builders' Association, providing that after September 1, 1907, a railroad receiving a non equipped car shall hold the delivering company responsible, shall repair it themselves and send the bill to the delivering company, not to the owning company. The effect of this rule is that all cars must be equipped with air brakes by that date.

F. R. Clark, head of the Railway Conductors' Order, testified before the commission:

From my knowledge of the employes' feelings I can say that they believe that perfection can only be reached when the railroads are required to have all their cars equipped and in use [with air brakes]. The employes are willing to overlook unavoidable failure to keep up the exact percentage of 100, but they demand its general enforcement.

Figures show that the railroads have used an average of nearly 90 per cent. of air braked cars during the last six months; the Pennsylvania has used 76 per cent. Previously in answering arguments of railways, I stated that the railways would make such savings in operating expenses on account of installing air brakes that they would be able to pay for the installation. This is the case; the Pennsylvania, for example, has reduced its force of brakemen in the proportion of 3 to 2 on 100 per cent. trains. Of course this reduction increases danger for three men can much better attend to signals and flagging than two, but the railroads have been able to recoup their expense by this policy of retrenchment. The principal reason that the railroads resist a 100 per cent. requirement is that they have old cars not fit to equip with air brakes and they wish to get full use out of them.

The employes are unanimous in their opinion that the use of the power brake is necessary to safety. I am willing therefore to accept in their name an order by the commission that on and after July 1, 1907, 100 per cent. of all cars used by railroads shall be equipped and operated with air brakes. No car can be unused but all must be connected and in use. What is wanted is a final settlement and not a series of hearings over each proposed increase in the minimum.

As was mentioned last month, a new order of the Interstate Commerce Commission requires that no freight train, after August 1, 1906, shall be operated with less than 75 per cent. of the cars equipped with air brakes in actual use. The intention of the commission is to bring about the complete equipment of all freight cars with air brakes as speedily as the railway companies become able to comply fully with the law.

At the annual meeting of Klang Coffee Cultivation Co., Limited (Penang, August 29), the report was less favorable regarding coffee than had been anticipated, due to an abnormal drought. The first sale had been made of the rubber from the estate; there were about 41,500 rubber trees, of which about 800 were 7 years old. The manager was congratulated upon winning for the estate the Governor's Cup at the Agri Horticultural show at Penang this year, as well as at Kuala Lumpur last year.

OFFICIAL STATISTICS OF INDIA-RUBBER AND GUTTA-PERCHA.

For the United States Fiscal Year Ended June 30, 1905.

INDIA-RUBBER.

I.—Imports of Crude India-Rubber, by Countries.

From	Pounds.	Value.
<i>Europe:</i>		
Belgium.....	5,198,305	\$4,002,507
France.....	701,876	601,853
Germany.....	3,714,547	2,358,370
Netherlands.....	472,902	349,089
Portugal.....	4,458,091	3,194,541
United Kingdom.....	10,044,654	7,400,647
Total.....	24,570,485	\$18,306,097

<i>North America:</i>		
British Honduras.....	26,953	\$ 16,662
Quebec, Ontario.....	9,379	7,914
Costa Rica.....	152,022	83,301
Guatemala.....	86,065	36,879
Honduras.....	82,342	42,879
Nicaragua.....	769,381	488,767
Panama.....	260,461	154,033
Salvador.....	52,031	21,250
Mexico.....	352,000	185,951
West Indies—British.....	1,053	2,531
Cuba.....	275	140
Total.....	1,796,652	\$1,036,276

<i>South America:</i>		
Erazil.....	26,593,555	\$28,476,252
Colombia.....	622,477	353,630
Ecuador.....	863,184	538,172
Guiana—British.....	3,400	886
Dutch.....	8,895	3,576
Peru.....	174,781	119,297
Venezuela.....	444,056	228,455
Total.....	38,710,648	\$39,720,268

<i>Asia:</i>		
East Indies—British India.....	202,451	\$148,116
Strs. Settlements.....	1,899,376	624,653
Other British.....	4,298	6,051
Dutch.....	6,777	5,494
Hongkong.....	12,135	9,839
Siam.....	5,326	4,804
Turkey in Asia.....	2,916	1,474
Total.....	2,132,349	\$860,531

<i>Africa:</i>		
British Africa—West.....	24,122	\$11,194
Total.....	24,122	\$11,194

GRAND TOTAL.....	67,234,256	\$49,878,366
Total, 1903-04.....	59,615,551	\$40,444,250
Total, 1902-03.....	55,010,551	39,436,710
Total, 1901-02.....	50,413,481	34,899,270
Total, 1900-01.....	55,275,529	38,455,383
Total, 1899-00.....	49,377,138	31,376,867
Total, 1898-99.....	51,063,166	31,597,620
Total, 1897-98.....	46,055,497	25,786,010
Total, 1896-97.....	35,574,449	14,455,576
Total, 1895-96.....	36,574,470	16,601,020

II.—Imports of Manufactures of India Rubber, by Countries.

Indicates Increase; indicates Decrease compared with preceding year.

From	Value.
Austria-Hungary.....	\$ 28,807
Belgium.....	1,634
France.....	322,250
Germany.....	87,152
Italy.....	1,286
Netherlands.....	54.9
Russia on Baltic and White Seas.....	3,990
Switzerland.....	1,579
United Kingdom.....	11,298
Quebec, Ontario, Manitoba, etc.....	103
British Columbia.....	75
Hongkong.....	496
Japan.....	247
British Australasia.....	51
Other Countries.....	51
Total, 1904-05.....	\$1,389,064
Total, 1903-04.....	\$821,526
Total, 1902-03.....	665,972
Total, 1901-02.....	1,007,366
Total, 1900-01.....	45,863
Total, 1899-00.....	61,087
Total, 1898-99.....	370,309

III.—Imports of Crude India-Rubber, by Customs Districts.

A.—	Pounds.	Value.
Baltimore.....	25,000	\$ 4,247
Boston and Charlestown.....	2,407,631	1,620,878
New York.....	64,193,170	47,872,421
New Orleans.....	436,813	285,557
Saluria, Tex.....	52,654	24,022
San Francisco.....	161,561	56,953
Chicago.....	7,204	5,770
Niagara, N. Y.....	1,500	1,244
Vermont.....	7,358	6,034
Other ports.....	1,205	1,246
Total.....	67,234,256	\$49,878,366

IV.—Imports of Manufactures of India Rubber, by Customs Districts.

A.—	Value.
Baltimore.....	\$ 8,089
Boston and Charlestown.....	87,043
Fall River, Mass.....	2,982
Newport News, Va.....	997
New York, N. Y.....	1,225,898
Palladelphia.....	15,852
Providence, R. I.....	2,436
Galveston.....	603
New Orleans.....	993
Alaska.....	886
Hawaii.....	509
Los Angeles.....	1,095
San Francisco.....	14,030
Chicago.....	18,954
Cuyaboga, Ohio.....	730
Vermont, Vt.....	1,309
Kansas City, Mo.....	614
St. Louis.....	2,506
Porto Rico.....	510
Other New England ports.....	766
Other New York ports.....	520
All other ports.....	1,320
Total 1904-05.....	\$1,89,064

V.—Exports of Manufactures of India Rubber (and Gutta-Percha), by Customs Districts.

From	Belting, Packing, and Hose.	Boots and Shoes.	All Other Rubber
Bangor, Me.....	\$ 1,946	\$ 1,221	\$ 2,776
Boston and Charlestown.....	10,291	439,471	268,608
New York.....	645,181	613,746	1,359,145
Pasamaquoddy, Me.....	2,478	3,216	1,59
Arizona.....	13,711	929	8,176
Paso del Norte, Tex.....	34,246		21,500
Saluria, Tex.....	15,700	54	13,300
Alaska.....	737	34,211	10,025
Paget Sound.....	19,882	11,437	23,322
San Francisco.....	118,442	55,177	102,493
Detroit.....	18,788	370	43,810
Champlain, N. Y.....	3,637	150	125,375
Memphremagog, Vt.....	10,639	422	14,145
Niagara, N. Y.....	11,720	1,039	136,472
Vermont, Vt.....	33,723	17,225	126,832
N. and S. Dakota.....	7,158	3,373	16,257
Other ports.....	22,481	321	198,619
Total.....	\$94,109	\$1,214,342	\$2,572,375

GUTTA-PERCHA.

I.—Imports of Manufactures of Gutta-Percha, by Countries.

From	Value.
Austria-Hungary.....	\$ 49
Belgium.....	11,416
France.....	2,983
Germany.....	67,740
Netherlands.....	13,753
United Kingdom.....	21,452
Japan.....	305
Other countries.....	37
Total, 1904-05.....	\$117,735

II.—Imports of Crude Gutta-Percha, by Countries.

From	Pounds.	Value.
France.....	832	\$ 525
Germany.....	166,773	74,233
Netherlands.....	2,800	616
United Kingdom.....	140,525	42,478
West Indies—British.....	77,947	23,783
Colombia.....	128	41
Guiana—British.....	87,742	35,497
Dutch.....	43,298	18,667
British India.....		
Straits Settlements.....	139,112	14,348
Total, 1904-05.....	665,217	\$210,188
Total, 1903-04.....	424,617	\$174,953
Total, 1902-03.....	316,290	222,400
Total, 1901-02.....	525,767	252,329

GUTTA-JULETONG (FONTIANAK).

United Kingdom.....	19,977	\$ 1,005
Straits Settlements.....	19,082,785	639,239
Dutch colonies.....	15,285	546
French colonies.....	36,864	529
Total, 1904-05.....	19,104,911	\$641,319
Total, 1903-04.....	14,887,416	\$430,231
Total, 1902-03.....	13,984,817	345,431
Total, 1901-02.....	16,850,821	501,418

RUBBER SCRAP.

Quantity and Value of Imports, by Countries.

From	Pounds.	Value.
Belgium.....	32,473	\$ 1,503
Denmark.....	54,045	3,112
France.....	837,975	46,023
Germany.....	2,177,221	118,840
Italy.....	5,952	399
Netherlands.....	13,450	799
Russia—Baltic Sea.....	4,358,583	259,206
Russia—Black Sea.....	2,429,990	142,637
Norway.....	402,634	21,078
Sweden.....	584,767	34,424
Turkey in Europe.....	473,521	27,860
United Kingdom.....	1,367,262	133,867
Nova Scotia, N. Brunswick.....	465,651	21,671
Quebec, Ontario, Manitoba.....	2,097,265	103,415
British Columbia.....	61,501	2,207
Newfoundland, Labrador.....	22,668	1,276
Mexico.....	18,369	353
Miquelon, Langley.....	1,383	64
Cuba.....	53,477	2,916
Venezuela.....	270	10
Turkey in Asia.....	15,000	969
British Australasia.....	1,700	10
Total, 1904-05.....	15,576,214	\$953,439
Total, 1903-04.....	20,270,970	\$1,164,785
Total, 1902-03.....	24,659,894	1,516,137
Total, 1901-02.....	22,894,900	1,457,900
Total, 1900-01.....	15,235,236	988,316

RECLAIMED RUBBER.

Value of Exports, by Countries, for Four Years.

To	Value, 1901-02.	Value, 1902-03.	Value, 1903-04.	Value, 1904-05.
Austria-Hungary.....	\$ 40	\$ 481	\$ 1,151	\$ 9,156
Belgium.....	1,250	1,084	26,398	39,816
France.....	38,310	13,932	55,739	30,664
Germany.....	20,191	19,427	20,225	18,744
Italy.....	12,291	11,284	6,932	24,705
Netherlands.....	6,550	9,049	1,253	1,253
Denmark.....	2,809	418		
Russia.....	5,552	1,774		
Spain.....	18,318	215,904	8,442	10,894
Sweden-Norway.....	320,844	129,216	380,208	402,830
Great Britain.....	143,276	1,368	212,310	162,154
Canada.....	42	85	1,410	13,147
Mexico.....	175	566		4,100
Japan.....	40		20	185
Australasia.....				
Other lands.....				
Total.....	\$569,698	\$404,586	\$712,835	\$727,847

EXPORTS OF AMERICAN RUBBER GOODS.

FISCAL YEAR ENDED JUNE 30, 1905.

EXPORTED TO—	Beltting, Packing, and Hose.	Boots and Shoes. Pairs	Value.	Other Goods Value.	Total Value.
EUROPE:					
Austria-Hungary.....	\$ 1,044	507	\$ 621	\$ 3,925	\$ 4,590
Azores, Madeira Islands..		397	348	124	472
Belgium.....	4,475	345,766	151,451	29,279	15,205
Denmark.....	2,422	20,303	11,892	5,729	10,043
France.....	17,185	1,189	677	44,507	62,669
Germany.....	27,615	344,688	148,183	172,943	349,741
Greece.....		48	26	24	50
Italy.....	1,339	67,230	35,327	59,174	95,840
Netherlands.....	744	8,999	4,124	19,248	14,116
Portugal.....		212	615	25	641
Roumania.....	3,536			21	3,557
Russia on Baltic Sea.....	937	130	114		1,051
Russia on Black Sea.....	212				212
Spain.....	964	43,541	20,834	4,918	26,716
Norway.....	2,495	5,142	2,967	1,690	7,142
Sweden.....	2,080	20,916	12,031	8,720	22,831
Switzerland.....	2,601	5,266	2,783	1,045	6,429
Turkey in Europe.....		115,981	48,829		48,829
United Kingdom.....	99,464	755,246	338,773	833,959	1,292,194
Total, Europe.....	\$161,311	1,775,553	\$179,595	\$1,235,431	\$1,960,828
NORTH AMERICA:					
Bermuda.....	\$ 1,225	18	\$ 19	\$ 1,059	\$ 2,303
British Honduras.....	503	6	18	100	618
Nova Scotia, New Brunswick.....	11,949	19,762	19,437	19,437	41,818
Quebec, Ontario, Manitoba.....	94,780	88,726	85,505	6,28,896	809,181
British Columbia.....	33,861	5,131	13,330	18,486	65,677
Newfoundland, Labrador.....	5,161	43,028	31,215	3,301	39,977
Costa Rica.....	7,063	29	33	2,905	10,301
Guatemala.....	5,672	54	50	1,138	6,850
Honduras.....	1,791	24	16	962	2,769
Nicaragua.....	3,823	159	99	9 5	4,877
Panama.....	15,031	828	492	8,554	24,077
Salvador.....	4,303			3,652	7,955
Mexico.....	140,244	3,455	2,965	123,262	166,501
Miqueon, Langley, etc.....	36	2,889	3,134		3,170
West Indies—British.....	7,148	2,234	1,599	5,131	13,668
Cuba.....	104,166	5,577	5,898	94,821	204,885
Danish.....	669			246	916
Dutch.....	399			495	894
French.....				77	77
Haiti.....	1,261	74	126	707	2,094
Santo Dom.....	1,694	53	65	1,175	2,934
Total, North America.....	\$441,079	172,077	\$163,848	\$906,734	\$1,421,420
SOUTH AMERICA:					
Argentina.....	\$17,857	3,979	\$ 2,246	\$ 11,979	\$ 33,082
Bolivia.....				70	70
Brazil.....	3,857	15,678	8,928	34,015	46,795
Chile.....	8,414	204	273	16,597	25,284
Colombia.....	2,730	3,268	2,032	5,672	10,334
Ecuador.....	28,383	264	146	1,569	30,097
Gulana—British.....	374	4,554	2,163	337	2,874
Dutch.....	250	30	12	305	567
French.....				336	336
Peru.....	8,146	503	1,617	15,153	24,916
Uruguay.....		1,068	476	2,475	2,951
Venezuela.....	2,891	390	169	5,610	8,731
Total, South America.....	\$72,892	29,988	\$18,056	\$94,078	\$176,037
ASIA:					
Chinese Empire.....	\$10,903	3,903	\$4,626	\$12,569	\$28,098
East Indies—British India.....	6,900	1,163	955	8,629	16,484
Straits Settlements.....	899	42	74	3,883	4,856
Dutch.....	25			2,215	2,240
Hongkong.....	1,638	5,384	4,426	9,026	15,390
Japan.....	35,532	102,821	63,064	160,141	258,737
Korea.....	1,586	48	95	966	3,547
Russia, Asiatic.....		2	7		7
Siam.....		12	38	199	237
Turkey in Asia.....		16,149	7,829		7,829
Total, Asia.....	\$57,483	129,524	\$81,099	\$197,628	\$337,426
OCEANIA:					
British Australasia.....	\$ 84,758	261,588	\$155,699	\$ 72,715	\$312,672
All other British Oceania.....	20	9	21	24	65
French Oceania.....	210	213	186	586	952
German Oceania.....				231	231
Philippine Islands.....	29,548	9,302	7,419	30,696	67,663
Total, Oceania.....	\$114,036	271,112	\$163,325	\$104,322	\$391,583
AFRICA:					
British Africa—West.....	\$ 5,074	260	\$ 78	\$ 321	\$ 5,473
South.....	106,037	12,129	8,343	26,883	141,263
East.....				5	5
Canary Islands.....	29,226	6	3	21	21
Portuguese Africa.....	552			6,720	35,940
Turkey in Africa—Egypt.....				432	1,684
Total, Africa.....	\$141,189	12,335	\$8,424	\$34,782	\$184,395
GRAND TOTAL.....	\$994,100	2,390,539	\$1,214,342	\$2,572,375	\$4,780,817
Grand Total, 1904.....	880,010	2,310,808	1,086,364	2,469,750	4,436,124
Grand Total, 1903.....	819,985	2,307,401	1,056,491	2,290,875	4,176,351
Grand Total, 1902.....	634,146	2,594,708	1,046,315	1,781,941	3,462,402
Grand Total, 1901.....	565,726	1,459,100	724,015	1,727,527	3,017,268
Grand Total, 1900.....	541,830	767,104	420,746	1,405,212	2,367,788

RUBBER INTERESTS IN EUROPE.

RECOVERY FROM THE FIRE AT HARBURG.

THE new factory buildings of the Vereinigte Gummiwaaren-Fabriken Harburg-Wien, erected to replace those destroyed by fire on October 7, are being rapidly pushed to completion. The managing director, Mr. Louis Hoff, with his usual energy, is removing all obstacles and making the contractors rush in a manner that is new to their experience. There are three new five-story brick buildings, of modern mill construction, respectively 96, 100, and 110 feet long, and each 40 feet wide. They will be used for the manufacture of motor tires and boots and shoes. Coincident with this work is the erection of a magnificent central power station, in which will be installed two steam turbines of 1000 HP. each, the contract under penalty reading that they shall be running on January 15. A similar contract calls for the completion of the three factory buildings by February 15.

IMPROVED PROFITS OF THE SILVERTOWN COMPANY.

THE report of the India Rubber, Gutta-Percha, and Telegraph Works Co., Limited, for the year ending September 30, presented at the annual meeting in London, December 19, shows after provision for doubtful debts, a net profit of £51,729 [= \$251,739.18]. The gross trading profits were greater than in any other year with the exception of 1903. The directors, therefore, were enabled to recommend a dividend, making with the *interim* dividend already distributed, a total of 10 per cent. for the year, the rate which has been paid for a long time past, with the exception of last year, when the rate was only 5 per cent. The amount carried over is £55,003, against £53,274 last year. The general business of the company shows an increase compared with last year, and although the price of raw material is still very high the fluctuations have not been great and, therefore, better prices have been obtained for manufactured goods. The cable department, besides having other smaller work in hand, is engaged in the manufacture of 1300 nautical miles of submarine cable for the Commercial Pacific Cable Co. (New York), which will be laid by the company's cable steamer *Silvertown* between Shanghai and Manila, in March next. Major Leonard Darwin has been elected chairman, in place of the Hon. Henry Marsham, who now finds it necessary to reside abroad during the greater part of the year.

THE CONTINENTAL RUBBER WORKS.

FEW people know what a tremendous plant is that of the Continental Caoutchouc- und Guttapercha Co. (Hannover, Germany). Indeed, figures hardly tell the story. The buildings, however, have a street frontage of 700 feet, and a rear frontage of more than 1500 feet, being located on a triangular shaped plot. The factory employs 4200 hands and uses many thousand dollars worth of rubber daily. Of course the most important product is the manufacture of tires for automobiles and cycles. That, however, is but one department of the work carried on.

In playing balls, for example, the press room has a capacity of 6000 dozen a day. One press mold (working on small balls, of course) turns out 40 dozen at a heat. There are in this press room 100 of these press molds, covering all of the stock sizes of balls made. As another example of the capacity for work, it might be mentioned that the company can turn out 30,000 feet of garden hose daily, 8500 bicycle tires, and 800 automobile tires, and can equip 25 commercial vehicles a day with their solid tire. Germany being a coffee drinking rather than a tea drinking country, the employes are daily served with that beverage, which is made in a room fitted with huge tins, the daily consumption being 750 gallons.

The new reclaiming plant of the Continental company is now completed. It is situated some 10 miles out of Hannover, on the river Leine, where there is ample water for all purposes, and also plenty of room on the shore for building expansion. The factory is up-to-date in every respect, the process of reclaiming being the Marks, for which the Continental have a license. A special process that is run in the building that is not a part of the reclaiming plant is the extraction of rubber from cloth scraps covered with unvulcanized gum. This is wholly automatic in its operation, and recovers not only the rubber but the fabric as well.

DUNLOP PNEUMATIC TYRE CO., LIMITED.

At the ninth annual meeting of shareholders (London, December 12), the chairman, Mr. Harvey Du Cros, presented what the directors regarded as a favorable report, for the business year ending September 30. It was the first year that the company had been without patent protection; it was now a manufacturing and trading company, and not, as originally, a monopoly controlling an important patent. During the year they had been compelled to sell their bicycle tires at 5 shillings less per pair; the average cost of rubber had been 10½ pence per pound more than the preceding year; but by reason of improved processes and methods the strictly manufacturing profits had been £144,000 against £157,000 from the same source the year before. (There are now no longer any royalties in respect of patents.) And he thought that "rock bottom" had been reached, so that coming years would show an improvement. The company were turning out a good motor tire, and were unable to keep up with their orders, but an additional factory was well under way. Mention was made of the good showing of their tires at the Vanderbilt Cup races, near New York, in October. They expected a large business in connection with the introduction of motor buses, in London and elsewhere. It was stated that arrangements had been made for buying their crude rubber for the next 10 years, on particularly favorable terms. The position of the company had been improved by the purchase and retirement of £620,000 in debentures, at a profit to the company of £15,950. Plans were still under discussion for reorganizing the company, with a view to eliminating from capital account the sum of £3,894,000 for "good will," which had been figured in the assets from the beginning. There had been delay, however, in finding a plan upon which all classes of shareholders could agree as being equitable. The dividends for the year had amounted to £89 749 4s. 5d, and the interest on debentures £14,566 0s. 11d. [See THE INDIA RUBBER WORLD, October 1, 1905. page 24]

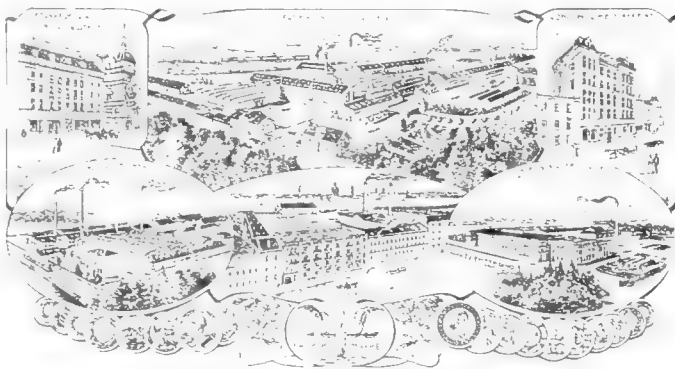
THE DUNLOP COMPANY IN LIBERIAN RUBBER.

ALFRED DU CROS, of the Dunlop Pneumatic Tyre Co., Limited, is a member of the board of The Liberian Rubber Corporation, Limited, with a capital of £270,000 [= \$1,313,955], floated in London early in December, to acquire from the Monrovia Rubber Co., Limited, a concession from the Liberian government, granting a monopoly in the export of rubber from that republic for 26 years. The Monrovia company already have rubber trading stations at work, and will also turn over a coffee plantation and other assets. Sir Harry H. Johnston, G. C.

M. G., K. C. B., one of the highest authorities on African conditions, and Mr. Alexander Whyte, long employed by the British government as a botanical expert in Africa, unite in describing the rubber resources of Liberia as of great value—excelling, perhaps, those of Lagos. The Lagos rubber tree (*Funtumia elastica*) is found there, together with valuable species of *Landolphia*, and Sir Harry Johnston is of the opinion that 500 tons of rubber may be obtained yearly. The Dunlop company are stated in the prospectus of the Liberian company to be under contract, for 10 years, to purchase the entire rubber output of the latter, at market prices. Mr. Alfred Du Cros, above mentioned, was the holder (in behalf of the Dunlop company) of 5000 shares of the Monrovia Rubber Co., Limited, and its managing director. These details will explain the reference, at the Dunlop meeting in December, to the arrangements made for buying rubber. The Monrovia company, by the way, was a subsidiary company of another corporation, mentioned in THE INDIA RUBBER WORLD, April 1, 1904 (page 233).

RUBBER WORKERS' STRIKE AT MUNICH.

DURING a recent visit of the Editor of THE INDIA RUBBER WORLD to Munich, Bavaria, he found a strike in progress at the important rubber works of Aktiengesellschaft Metzeler & Co., which trouble, according to later reports, has come to an end. It appears that on November 9 four workmen in the surgical goods department were dismissed on a charge of having caused trouble, whereupon they appealed to the labor federation, which demanded that the men be reinstated. The company refusing, a general strike in the factory was ordered on November 17, by the Fabrik-, Land- und Hilfsarbeiter. No basis for the settlement of the trouble could be arrived at between the company and the labor organization, and Judge Pressner was invited by both sides to arbitrate. His decision was in favor of the strikers, the award involving a general increase in wages.



Factories of the Berlin-Frankfurt Company

AN OLD GERMAN RUBBER FACTORY.

THE Berlin works of the Berlin-Frankfurt India-Rubber Co. (Vereingte Berlin-Frankfurter Gummiwaaren-Fabriken) situated on the river Spree, are among the oldest in Germany, having been established in 1849 by an Englishman named Elliott. This name is still kept in existence through certain specialties which they make; for example, the "Elliott" tire. The factory buildings are substantial, old fashioned in the extreme, and as Director Spannagel admits, not up to date, but nevertheless the business is well conducted and very profitable. One of their specialties is cut sheet, of which they make great quantities, particularly for the great variety of colored tubing which goes to Spain and Latin American countries, the Latin blood showing in its desire for bright colors wherever obtainable. They also make baby carriage tires by the ton, and a great variety of surgical articles. The company, of course, have other plants, that, for example, at Gelnhäusen being modern and up to date in every respect, and turning out a fine grade of automobile tires and much special work in mechanical rubber lines. Of this factory Dr. Carl Poppe is the managing director. The company's third factory at Grottau, in Bohemia (near the Saxon frontier), dates from 1892.

TIRES AT THE OLYMPIA MOTOR SHOW.

THE fourth annual exhibition of automobiles at Olympia Hall, London, occurred November 18-25. The Society of Motor Manufacturers and Traders, who run the Olympia exhibition, certainly gave the world at large a magnificent show. To even catalogue the great variety of automobiles, motor omnibuses, tires, and other accessories, would cover pages. To attempt to picture the completeness of the exhibition, the fine workmanship shown in the cars, the excellent taste portrayed in the arrangement of the displays, the great crowds that attended, and the financial success that accrued, would fill volumes, and even then it is questionable if justice would be done to the subject. Certain it is that it was proved that the show was held at exactly the right time of the year, both for purchaser and for manufacturer; nor can it be doubted that many thousands of pounds that normally would have gone to the Paris show and the American exhibitions were gathered in by the alert Britishers. This paper is, of course, specifically interested in the tires, of which there were a great variety, well displayed, not only in the spaces reserved for the companies displaying, but everywhere throughout the building were vehicles equipped with certain types of tires, thus giving really a multiple view of the most important makes.

At the very excellent exhibit of J. W. & T. Connolly, Limited, there were shown two Goodrich side wire tires, one of which had been run 13,000 and the other 18,000 miles, on heavy commercial vehicles. The tires were still good, and had worn down with wonderful evenness. A curious feature of one of them was a jagged fragment of flint that had bedded itself in the tire so firmly that it could not be drawn out—an eloquent comment on the sort of roads that the tire had been up against, still remaining intact.

As was to be expected, cars, tires, and accessories that were approved by royalty were made much of by the exhibitors. It is not, of course, remarkable, for one to be appointed "Purveyor to the King," or "Dressmaker to the Queen," but for the first time in the history of the rubber business has one been appointed "Manufacturer of rubber tires to the establishment of his Majesty's stables." This signal favor fell to Mr. J. M. MacLulich, of the Sirdar Rubber Co. A copy of his appoint-

ment, signed by the Duke of Portland, and handsomely framed, adorned the Sirdar exhibit and undoubtedly had its effect. It does not seem, however, that, in giving this appointment, William John Arthur Charles James, Duke of Portland, bound himself not to use any other tires, and it therefore happened that the Collier Tyre Co. has a picture of a magnificent automobile in which was seated his Majesty Edward VII. and, from the look of content on his face, approving the Collier tires with which the vehicle was shod.

Mr. James Iddon, M. I. M. E., of Iddon Brothers, the rubber engineers, was present at the exhibition, studying the rubber part of it with an interest that too few rubber engineers show.

The Collier Tyre Co., Limited, had a notable show, General Manager Williams appearing apparently from nowhere whenever a customer approached the stand. Most of the officers of the company visited the show, among them being Mr. James E. Baxter.

One of the best exhibits was that of the Continental Caoutchouc and Gutta-Percha Co., the huge tire that half encircled it drawing much attention. Besides the London manager, several of the officers from the Hannover factory were present, notable among them being the Messrs. Seligmann and Tischbein.

The "Palmer cord" tire, made by the India Rubber, Gutta-Percha, and Telegraph Works Co., Limited, of Silvertown, showed up well, the practical demonstration of the strength of a single strand of Palmer fabric which was shown by its holding up many tons of iron weights appealing to all and not alone to those who are particularly interested in tires. Mr. Christian H. Gray, managing director of the company, was present the last day of the show and evidently satisfied with the way business was coming to the exhibit.

David Moseley & Sons, Limited, showed their machines and drew especial attention to their rim fastening by means of a young lady attendant who put on and took off tires in a very brief space of time. Messrs. David and Oswald Moseley were both present part of the time, as was also Mr. Arthur E. Friswell, superintendent of the tire department at Manchester.

In variety of tires, The North British Rubber Co., Limited were preëminent, showing several new types of tires, particular-



CONTINENTAL CAOUTCHOUC CO.'S EXHIBIT.



NORTH BRITISH RUBBER CO.'S EXHIBIT.

ly ones devoted to heavy traction. Mr. Stewart came down from Edinburgh to attend the show, but so many business engagements intervened that he was very rarely seen at his company's exhibit.

In connection with the tire business were many special devices, perhaps the most important being the tire vulcanizing appliances manufactured by Harvey Frost & Co. At their booth actual repairing was done for crowds of interested visitors and presumably many sales made.

[FROM ANOTHER SOURCE.]

CONSIDERING what London weather can be in November, it must be admitted that things were propitious. Certainly there was some fog and also some rain during the week, but the dreaded black fog which works such havoc with London traffic was absent and there was nothing to hinder the attendance of visitors. In fact, the attendance, especially in the body of the hall, was uncomfortably large, and locomotion was attended with difficulty. As far as this Journal is concerned, interest may be considered as centering in the South gallery, where the various tire exhibitors had their location, and these notes will be limited to this part of the show. Price lists and descriptive booklets abounded and it is noticeable how the information given to purchasers becomes year by year not only more bulky but more technical. It is interesting to note the varying styles affected by the compilers of this literature; in one case it is matter of fact and sedate in tone without any extravagance in claims or any pomposity in diction; in another attention is perpetually being drawn to the fact that the firm's goods are not only the best that can be made but are also superior to those of all competitors.

Most of the men prominently connected with the tire manufacture were to be seen at one time or another during the week. Perhaps the most notable absentees among the British exhibitors were members of the Charles Macintosh & Co. firm, whose stand was under the management of Mr. Lees, the head of their London establishment. Mr. J. E. Hopkinson was constant in his attendance to explain to enquirers the advantage of using his firm's tires. These are of the solid variety and differ from others mostly in their mode of attachment to the wheel. The double continuous tread of this tire allows of considerable wearing away without at all impairing its efficiency and it has been found very satisfactory for motor 'buses, lorries, vans, etc. Among other solid tires on view was the De Nevers patent grooved tire. I had hoped to see Count de Nevers, but was not so fortunate. According to his son they are selling through Messrs. Liveredge & Sons increasing quantities of these tires. Though primarily a solid tire, the transverse grooves on the surface give it the advantages of a pneumatic, and if the immunity claimed from side slip is not exaggerated, the tire certainly has a great deal to recommend it. The manufacture is carried on at the mills of the De Nevers Rubber Co., at Earlsfield. The Sirdar tire was personified in Mr. MacLulich and its merits

were therefore not hidden under a bushel. The Sirdar Rubber Co. have moved from their modest home at Limpley Stoke and taken more commodious premises at Bradford-on-Avon.

An important part of the exhibits in the tire section related to anti-skid devices, though there was really nothing of novelty, or anything that indicated that the period of suspense and trial was about to be speedily ended. Old friends such as the Parsons chain device and the various metal studded chrome leather bands were on view, but this type has been with us now for some time. Perhaps the most notable advance is the new Michelin non-skid, which is not a separate band of studded leather, but which has the leather band embedded in the rubber tread. It is noticeable that the bigger tire manufacturers, such as Dunlop, Moseley, Continental, North British, and others say that they cannot countenance any complaints with regard to their tires where the various anti-skid devices have been attached to them. This is an important matter, and must, I should think, militate against the sale of the chain and studded band type. The tendency undoubtedly will be to have the anti-skid part and parcel of the original tire as is now done by Dunlop, Michelin, and the Continental company.

As a sort of counterblast to the notices issued by the tire manufacturers we have the statement of the Lamson leather treads people, for example, that they cannot be responsible for any defects in the rubber in the tires to which they fix their non-skid treads. It is pretty well evident, therefore, that the purchaser who does not get the complete article from one firm will have but little chance of redress if the tire turns out unsatisfactory as each side is sure to assert its innocence and blame the other. Of course, where a particular firm claims to have solved the problem by a patented device which can only be fitted to their own tires, this firm should get all the business



SIRDAR RUBBER CO.'S EXHIBIT.

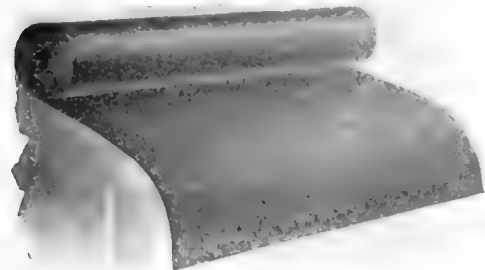
until a serious competitor arises.

It has been remarked in several quarters that the London press gave a considerable amount of attention and space to the Olympia show—in fact, in great excess of anything hitherto done in this respect. This certainly is a fact, but there was nothing particularly disinterested in it. A *quid pro quo* was obtained in the form of advertisements and a common feature of the London dailies during the show week was a big headline covering two columns of reporting, with side columns of advertisements from the firms who were receiving notice. I imagine the papers did pretty well out of it. Moreover, the occasion was seized by company promoters to bring out the prospectuses of three or four motor omnibus companies, bringing further grist to the newspaper mill. Compared with those of some years ago, the cycle and motor shows of to-day are looked upon by the exhibitors more as a means of doing business with dealers than as affording interest to individual members of the public, who visit the shows as a matter of general interest or perhaps merely to satisfy curiosity. Some complaints regarding the scant courtesy accorded by stall attendants to members of the latter class have found expression in print.

NEW GOODS AND SPECIALTIES IN RUBBER.

TWO ATTRACTIVE NOVELTIES IN MATTING.

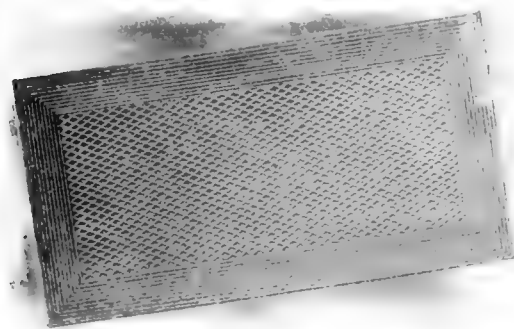
WHEREAS formerly the chief thought of the manufacturers of rubber mats and matting was to produce articles of utility, at a cost which would induce liberal buying, there is now evident a disposition to produce such goods in attractive patterns, indicating a demand



DELTA.

on the part of the users for something that will look well and now and then possess a distinctive novelty. In this line may be mentioned two new articles illustrated in accompanying cuts. The first is described as the "Delta" matting. It is a runner which is as handsome in appearance as a strip of carpet, and suitable for the finest store or

for an apartment house. It is light in weight and easily handled, but made of a compound which renders it durable. It is understood to be no



PURITAN.

more expensive than the plain corrugated runner. It is carried in stock in the standard width of 27 inches and in 50 yard rolls, but can be furnished in any other length wanted. The second article illustrated is the "Puritan" mat—a household door mat. This is a distinct departure from the old style mat. It is made with a deep diamond cell body and corrugated border. The cells clean the shoes thoroughly and retain the dirt, thus preventing the soiling of the floor or carpet beneath. While intended primarily for private residences, this mat is equally adaptable for store or office use. It is made in two sizes: 17 X 31 inches and 21 X 36 inches. [The Peerless Rubber Manufacturing Co., New York.]

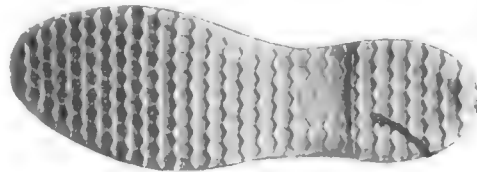
NOVEL PERFUMERY BOTTLE.

AMONG the novelties put out for the holiday trade recently was one which is understood to have been a particularly good seller. It was nothing more or less than a small perfumery container made in the shape of a nursing bottle, as indicated in the illustration. The little bottle was not only attractive in appearance, but filled with a good quality of extract. The novelty possessed the quality of originality, and in addition that of humor, which afforded fun making possibilities. It could be retailed at 10 cents. [American News Co., New York.]



A NEW TENNIS SOLE FROM CANADA.

THE substantial and progressive character of the rubber industry in Canada is indicated by the continual production of novelties by the various factories in the Dominion, some of which are especially attractive. In this category



deserves to be noted a "tennis" sole in a new pattern, shown in the illustration, which is used exclusively on the "Daisy" line of sporting shoes—yachting, tennis, bowling, lacrosse, and gymnasium—manufactured for the 1906 trade by The Berlin Rubber Manufacturing Co., Limited, (Berlin, Ontario).

DR. TULLAR'S FAMILY SYRINGE.

THE improved fountain syringe shown in the illustration has the new Tullar shaped bag with large opening for easy filling and cleansing. It is fitted with an extra large outlet, and special tubing. The curved vaginal pipe has no central aperture, and is made to discharge a ball or cup shaped spray. The outlet from this bag permits 3 quarts of water to be discharged in one minute. The straight vaginal pipe has twenty outlets. The adult and infant enema pipes are ball pointed, with three outlets, arranged to discharge obliquely. This design of pipe is considered a great improvement over the one outlet enema pipes supplied with the old style syringes. The general design of this syringe is new, the stock and workmanship first quality, and it is in good demand with the high class trade. [The Seamless Rubber Co., New Haven, Connecticut.]



TWO NEW PACKINGS.

THE basis of a new packing called "Ima" is a vegetable fiber derived from Mexico and subjected to a process developed by Mr. E. R. Ware, of Worcester, Massachusetts, an engineer impressed with the desirability of a steam or pump packing that would be durable and would not harden or absorb oil or water. Having obtained by experimenting an oil proof and acid proof compound, he next began to look for a satisfactory fiber to use in connection with it, finally selecting a cotton like fiber which he discovered in Mexico. A company has been incorporated to make the new packing, with a factory at Worcester. The same company will manufacture "Carbo-Asbesto," as a substitute for asbestos packing, which, it is claimed, will stand the heat of 600°F., and is intended for use particularly in gasoline automobiles. The chemical compound involved will be similar to that used in "Ima" packing. [The Ima Packing Co., No. 29 Broadway, New York.]

GOODRICH CIRCULAR ERASER.

THE making of a compound that will result in good service in an eraser is far from being the simplest problem in the rubber industry. An eraser which has yielded good results for ink or pencil, and which is especially adapted to typewriter work, is shown in the accompanying engraving. These erasers are packed one dozen in a box and one gross to the carton. [The B. F. Goodrich Co., Akron, Ohio.]



THE "TUBE CORE" GOLF BALL.

NEW patterns of golf balls continue to be produced, particularly in Great Britain. Among the latest is that termed the "Tube Core."



This is made without any hard core, the material beneath the cover being entirely formed of one length of rubber tubing rolled under high tension. It is claimed that by this method the flight of a cored ball is combined with the putting qualities of a gutta-percha ball, while hacking or splitting is reduced to a

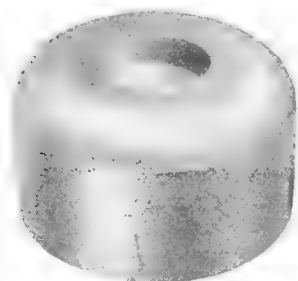
minimum. The effort to increase the durability of cored balls seems, by all reports, to have had a considerable amount of success in this particular instance, for the tube core ball has withstood without injury the severe test of lengthy play. [Martins, Limited, Birmingham, England.]

A RUBBER TEAPOT SPOUT.

It is very natural that a tea-drinking race such as the English should invent certain appliances for their needs that would not find any particular use among those having the tea habit in only a slight degree. Such an invention is the Mandarin pourer. This is really an artificial teapot spout, made of white rubber, designed to fit over a badly molded or broken nosed teapot, the pourer being so curved that the liquid throws away from the spout in a concrete stream. In order to obviate any taste or smell of the rubber, it is the custom to soak it in strong tea for some 24 hours. It is then applied to the teapot, and is said to have a quite general use, not, perhaps, among those who have the finest of tea services, but where pennies must needs be counted with care. The appliance is registered, but is not patented, and is to be found in rubber stores throughout the United Kingdom, in none of which is the inquiring foreigner likely to be told who manufactures it.

AIR CUSHION TYPEWRITER FEET.

THE device illustrated herewith is the result of experiments made by a practical operator, who for a long time had been



studying ways and means to lessen the rumbling and hollow sound continually made by typewriters when in use. It is claimed for this simple pneumatic device that it will increase the life of a type writing machine, the speed of the operator, the ease of the operator, and the resiliency of the machine, and decrease the noise, the wear and tear both upon operator

and machine, the slipping on or marring of costly desks, and the rumble of a machine when attached in a roll top desk. [The Typewriter Pedestal Co., Detroit, Michigan.]

RUBBER DEVELOPMENT IN PERU.

SEÑOR DON FELIPE PARDO, the new Peruvian minister to the United States, arrived at New York on December 21 from Colon, aboard the Royal Mail steamship *Orinoco*, with his bride, who formerly was Señora Teresa Barreda de Pardo, daughter of his paternal uncle. Señor Pardo speaks English and several other languages fluently. Another passenger by the same steamer was his brother, Señor Don Juan Pardo, whose mission is in connection with the completion of details for the forming of an important and extensive company for the working under a single control of some large rubber concessions in southeastern Peru, which are understood to be of very great value. The organization of the new company has been practically consummated, but a more definite statement at this time cannot be made public. The two gentlemen named are brothers of the president of Peru.

FACTS ABOUT COLORADO RUBBER.

A COMPANY in New York, expert in the extraction of rubber from shrubs, have lately carried out very exhaustive experiments in their own laboratories with the Colorado "rabbit weed." They were able to get from the weed just as it was gathered 1 per cent. in weight of rubber; after the dirt had been shaken off of the weeds and the leaves removed they got 3 per cent. of rubber. They further went very carefully into the cost of gathering the weed, and, finding out how many individual weeds it took to make a pound, and figuring exactly how many pounds a smart man could gather, working 10 hours a day. A careful analysis of the cost of gathering and the amount of rubber that could be extracted proved to them conclusively that there was not enough rubber present in the weed to pay for the cost of gathering it, let alone extraction.

THE GUAYULE FACTORY AT TORREON.

MANY newspapers in Mexico and a few in the United States have given much space to the Guayule rubber plant now being established in Torean, Mexico, by the Continental-Mexican Rubber Co. (New York). Without cataloguing the many wild statements made, the following may be in order. The plant will not cover 23 acres, as has been published, but will consist of a building for storage of a shrub and extraction of rubber, some 400 feet long and 300 feet wide, one story high. This happens to be situated on a 100 acre plot purchased by the company, not because they intended to cover the land with buildings, but because land was cheap down there and they were able thus to get a right of way to two different railroads. The statement that John D. Rockefeller, Jr., is either president or director is an error, as the president is Mr. E. B. Aldrich, as chronicled in the October 1, 1905, issue of THE INDIA RUBBER WORLD.

INFLATED FOOTBALLS.—Where footballs are used for display purposes, either indoors or in show windows, but especially in the latter case, they should not be inflated, as deterioration is sure to result. Light and heat has a bad effect upon football bladders, cycle inner tubes, and other articles of thin rubber, which should preferably be kept in a dark place in a temperature of not over 70 degrees. A football inflated and hung near the ceiling of a store room, as they are frequently seen, from the tendency of heat to rise is subjected to a higher temperature than exists at the counter level and in a short time will suffer from its effects.—*Sporting Goods Dealer.*

NEWS OF THE AMERICAN RUBBER TRADE.

UNITED STATES RUBBER CO.—SPECIAL MEETING.

A SPECIAL meeting of shareholders of the United States Rubber Co. has been called to be held at their registered offices, at New Brunswick, New Jersey, on January 3, to consider an increase in the number of directors and to vote upon certain proposed amendments to the by-laws. The by-laws at present limit the number of directors to 19 and it is now deemed advisable to enlarge the board in order that it may include persons prominent in the affairs of the Rubber Goods Manufacturing Co. and familiar with its business. One of the proposed amendments is to provide that real estate or securities of corporations owned by the company may be sold or pledged with the assent of three-fourths of the stockholders in interest at a meeting of the company, instead of three-fourths of all the shares outstanding, as hitherto. Another of the amendments proposed has become desirable on account of there now being two classes of preferred stock, instead of one as originally.

BANQUET OF THE CANADIAN RUBBER CO.

THE first annual banquet given by the management of the Canadian Rubber Co. of Montreal to their wholesale distributors throughout the Dominion, at the Windsor Hotel, in Montreal, on the evening of November 28, formed an enjoyable climax to the series of business conferences in which these gentlemen had participated during the two days preceding. The tables were made attractive with floral decorations, and with specimens of the company's products in miniature, while the walls of the banquet room were hung with large and handsome reproductions of the favorite advertisements of the Canadian company. Mr. D. Lorne McGibbon, general manager of the company, presided, and after the attractive menu had had

due attention, and the health of "The King," had been drunk, he called upon Mr. J. B. Learmont, the company's vice president, in the absence of Sir H. Montagu Allan,



BANQUET OF THE CANADIAN RUBBER CO. OF MONTREAL.

[General Manager D. Lorne McGibbon Proposing the Health of "The King,"

president of the company, who was prevented by illness from being present. Mr. Learmont gave credit to Mr. McGibbon for the suggestion of the conference and expressed his admiration of the spirit which had animated its members. He dwelt upon the continued growth of Canada and its business, referring to the time when the Dominion would have a hundred million inhabitants, and even after this number had been doubled there still would be room for more. There were responses to the toast "Our Guests" from points as far remote as Winnipeg and Nova Scotia. Mr. Arthur Congdon, of Winnipeg, spoke of the marvelous growth of that city, where, in 1904, building permits were granted to the extent of \$10,000,000, while in the first eleven months of 1905 they had amounted to \$11,000,000. Though the new buildings were chiefly residences, there was still a scarcity of houses. Mr. Congdon referred to the conference of wholesale distributors as being very much like a family gathering, which he felt to be due to the spirit shown by the management of the company towards those having relations to it. This spirit was further referred to by Mr. John Lennox, of Hamilton, who had been buying the company's goods for thirty years, and said that he felt like a son of the company. Mr. M. D. Pride, of Amherst, N. S., said that while not a stockholder, he considered that from his dealings he was none the less a partner in the business. Mr. E. A. Wright, secretary-treasurer, toasted "The Ladies"; Mr. J. Morris Carroll, advertising manager of the company, proposed "The Press", which toast was responded to by the writers present; and Mr. Learmont proposed the health of the chairman (Mr. McGibbon) and Mr. M. C. Mullarky, manager of the boot and shoe department, paying a tribute to their progressive policy as a factor in bettering the position of the company.

GOODYEAR TIRE AND RUBBER IN NEW YORK.

THE Goodyear Tire and Rubber Co. will remove shortly from their present New York location, No. 253 West Forty-seventh street, to the corner of Sixty-fourth street and Broadway. There they will occupy the whole of a new three story building which will have a 54 foot frontage on Broadway. The very large and

commodious basement is to be fitted up as a most up-to-date repair shop where just as good work will be done as can be accomplished in any fully equipped rubber factory. The New York manager, K. B. Harwood, is working most enthusiastically to get the new quarters completely equipped at the shortest possible notice, and is not at all backward in averring that the Goodyear quarters are going to be the best tire quarters in existence.

AMERICAN MADE RUBBER FOOTWEAR
IN GREAT BRITAIN.

AT the eleventh annual International Shoe and Leather Fair, in London, early in November, rubber footwear was prominently displayed, there being on exhibition the products of several factories on this side of the Atlantic. The United States Rubber Co., Lim-

ited—as the European branch is known—showed “Boston” and “Meyer” boots and shoes, together with a variety of tennis goods, and also leather soled rubber boots for sewer work and the like, and rubber proofed motor coats. A good display was made also by the London agents of the Hood Rubber Co., who are now making an active canvass of the European market. Mention must be made also of the extensive display made by The Gutta-Percha and Rubber Manufacturing Co. of Toronto, Limited, who recently opened a branch in London at 1, Finsbury square, in charge of Mr. C. E. Pillinger. Among the heel pad exhibits were shown the “Penna” goods which, while marketed under the name of a London house, are manufactured by the Pennsylvania Rubber Co. The United States Rubber Co., Limited, have opened a storage warehouse in Liverpool, at Westminster chambers, Crosshall street, in charge of Mr. Neale, who has been connected hitherto with the company's London depôt.

POPE MANUFACTURING CO.'S PROFITS.

THE Pope Manufacturing Co. (Hartford, Connecticut), successors to the late American Bicycle Co. and the companies subsidiary to the latter, have made public their second annual report, for the fiscal year ending July 31, 1905. President Albert A. Pope reports that the liquidation of certain departments which it was deemed desirable to discontinue has been about concluded. The expenses connected with this work of reorganization during the year and the cost of maintenance of unoperated factories (alone amounting to \$90,264.47) will not in future be a charge upon the company's business, thus permitting larger net earnings to be made. The net profit for the year was \$87,219.95, against \$50,992.69 for the preceding year. The gross sale of automobiles and bicycles during the year was \$7,547,508, being an increase over the preceding year of \$1,953,939. The current assets are reported at \$3,992,418.20 and the current liabilities \$1,182,725.20. It is stated that the amount of business done thus far in the new fiscal year considerably exceeds that of the corresponding months of the year preceding. [For the first annual report see THE INDIA RUBBER WORLD February 1, 1905—page 168.]

MECHANICAL RUBBER MANUFACTURERS ASSOCIATION.

THE executive committee of the Mechanical Rubber Manufacturers' Association of the United States, have arranged a banquet to be held at Sherry's, in New York, on January 18, to begin at 6.30 P. M., at which time it is understood that some matters of special importance will come before the members of the association. It is the earnest desire of the executive committee that each member of the association will be present, accompanied by one or more associates connected with his company. No one not connected with the association is to be invited, it being intended that this shall be strictly an association affair. There will be no charge for the dinner, the expense having been arranged for by the committee. The secretary, Mr. William Hillman, No. 59 Reade street, New York, desires to be informed as promptly as possible by all who may intend being present.

THE LEOMINSTER COMB INDUSTRY.

THE manufacture of horn and celluloid goods at Leominster, Massachusetts, continues to grow, as indicated by a recent increase in the number of factories and the enlargement of output of those long established. During the latter part of the year New York dealers in horn and celluloid combs, hair pins, and other ornaments were liberal buyers in Leominster, which has become one of the most important centers for the supply of such articles. Owing to the recent rise in the price of horn goods, some of the manufacturers looked for decreased buying,

but there has been no such result to date, and some of the shops have been running overtime, in order to fill their orders promptly. The Viscoloid Co. will erect this winter an extensive new shop, of brick, two stories high, and 120 X 60 feet, for the increased manufacture of viscoloid, which is highly regarded in Leominster as a substitute for horn. The Leominster Comb Co. are planning a large new shop, which will be the largest horn hair pin factory in the country. Mrs. Amanda J. Cobleigh, of Leominster, said to be the only woman comb manufacturer in the United States, keeps 15 employes busy.

NEW YORK STOCK EXCHANGE TRANSACTIONS.

UNITED STATES RUBBER CO.:

DATES	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Nov. 25	28,100	55 ³ / ₄	51 ¹ / ₈	4,025	112 ¹ / ₄	108 ³ / ₄
Week ending Dec. 2	28,200	57	54	2,610	112	110
Week ending Dec. 9	18,875	55 ¹ / ₂	53 ⁵ / ₈	1,600	110 ¹ / ₂	109
Week ending Dec. 16	35,695	57 ¹ / ₈	54 ¹ / ₂	4,500	112 ³ / ₄	110 ⁵ / ₈
Week ending Dec. 24	13,150	55 ¹ / ₄	52 ¹ / ₂	1,685	111 ¹ / ₄	109 ¹ / ₄

SECOND PREFERRED.

Week ending	Nov. 25	Dec. 2	Dec. 9	Dec. 16	Dec. 23
Sales	3,750	2,000	3,050	5,800	3,200
High	81	80 ¹ / ₂	80 ¹ / ₈	83 ³ / ₄	83 ¹ / ₄
Low	77	78 ¹ / ₂	79 ¹ / ₄	80 ¹ / ₄	81 ¹ / ₂

RUBBER GOODS MANUFACTURING CO.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Nov. 25	700	38 ¹ / ₄	38	100	104 ⁷ / ₈	104 ⁷ / ₈
Week ending Dec. 2	1,200	39	38 ¹ / ₈	60	103 ¹ / ₂	103 ¹ / ₂
Week ending Dec. 9	—	—	—	200	106	105
Week ending Dec. 16	1,800	41	39 ³ / ₄	100	106	106
Week ending Dec. 24	700	41 ¹ / ₂	40 ¹ / ₈	100	105	105

NEW INCORPORATIONS.

THE Seward Rubber Co., November 23, 1905, under the laws of Connecticut; capital authorized \$200,000; to begin business with \$75,000 capital. Incorporators: William Seward (late vice president and general manager of the Hartford Rubber Works Co.) and Arthur L. Shipman, Hartford, Conn., and George D. Cochran, New York. A factory building has been secured at Berlin, Conn.; considerable machinery has been purchased and more ordered, and the organization is being rapidly perfected. The object is to manufacture rubber mechanical goods and solid vehicle tires, and it is expected that deliveries can be made by April 1.

= Harburg Tire Co. (New York city), December 16, 1905, under New York laws; capital, \$20,000. Incorporators: Niel A. Weathen, New York; Millard C. Humstone and Rose A. Mackey, Brooklyn, N. Y. Object, to cover the tire business in America of the Vereinigte Gummiwaren-Fabriken Harburg-Wien, of Germany, who are now preparing to introduce their pneumatic motor tires on this side of the Atlantic.

= Knowlton Packing Co. (Boston), December 15, 1905, under Massachusetts laws; capital, \$40,000. Edward R. Metcalf, president; C. W. Smith, treasurer. To continue the manufacture of the Knowlton molded ring packing and to add the manufacture of other rubber specialties. This business was established some 10 years ago, by Messrs. G. W. Knowlton and E. R. Metcalf, and three or four years later the interest of Mr. Knowlton was purchased by Mr. Metcalf, who has since continued in charge.

= The Wright Rubber Manufacturing Co. (Mansfield, Ohio), December 11, 1905, under West Virginia laws; capital, \$1,000,-

000. Incorporators: E. E. Wright, E. T. S. Cliffe, N. G. Wright, C. M. Cliffe, Oscar A. Stuhldreher, A. J. Scherer, and M. E. Stuhldreher—all of Mansfield. The object is to erect a factory for making "artificial rubber" under the process of E. E. Wright, late of Pittsburgh, Pennsylvania, and to manufacture goods from the same—"probably starting with automobile and vehicle tires."

=Pneumatic Ball Tire Co., December 12, 1905, under the laws of New Jersey; authorized capital, \$3,000,000. Incorporators: Frank A. Magowan, Brown McDonald, and Frank B. Adams—all of No. 15 Exchange place, Jersey City.

=Gaulois Tire Co. (New York city), December 7, 1905, under New York laws; capital, \$500. Incorporators: Edward Stetson Griffing, New Rochelle, N. Y.; George A. Burkhard and John G. Craig, New York.

=Goodall Rubber Co., December 18, 1905, under New Jersey laws; capital, \$50,000. Incorporators: F. D. Stovell, H. W. Goodall, and William S. Feeny. To do a jobbing business in Philadelphia.

=Rubber Pad Co., November 28, 1905, under Maine laws; capital \$100,000. Incorporators: H. N. Hurd, H. A. Farrington, G. W. Cheny, and D. W. Perkins—all of Manchester, New Hampshire—and Horace Mitchell, of Kittery, Maine.

=Fulton Rubber Type, Ink and Pad Co., December 13, 1905, under New Jersey laws; capital, \$50,000. Incorporators: Henry Schmidt, Elizabeth A. Schmidt, and William L. Hooper, all of No. 130 Fulton street, Elizabeth, N. J. To continue the business of the Fulton Rubber Type Co., having a factory at the address given.

=Ima Packing Co., November 24, 1905, under the laws of New York; capital \$150,000. Objects, to manufacture at Worcester, Massachusetts, "Ima" and "Carbo-Asbesto" packings. Incorporators: George S. Terry (president), William H. Dowe (vice president), and Russell T. McCabe (secretary and treasurer)—all of New York.

=Shelby Rubber Co. (Shelbyville, Indiana), December 14, 1905, under Indiana laws; capital, \$100,000. Directors: Daniel F. Randolph, John Meloy, Thomas J. Marshall, George C. Walker, Wilbur B. Wright, James R. Howe, and Olis S. Peck.

=Madeira Rubber Co. (Hyde Park, Mass.), December 19, 1905, under Massachusetts laws; capital \$25,000. James F. Pring, president; Charles S. Prince, treasurer; John S. D. Everett, clerk. To succeed the Clarendon Rubber Co., incorporated July 29, 1904, by James F. Pring, formerly superintendent for S. Klous & Co., at the Boston Gossamer Rubber Works.

=The Pneumatic Eraser Co., Inc. (Owensboro, Ky.), November 25, 1905, under Kentucky laws; capital, \$30,000. A. J. Turpin, president; E. W. Wood, vice president; G. E. Turpin, secretary and treasurer; Stewart Starling, manager. The object is to manufacture a rubber eraser for typewriter and desk use under United States patent No. 797,908, issued to C. E. McGill, and eventually to manufacture other rubber goods.

CANADIAN RUBBER CO. CHANGES OWNERS.

THE Canadian Rubber Co. of Montreal, has changed owners. It is announced that Major George W. Stephens, M. L. A., Mr. D. Lorne McGibbon, Mr. Alexander Pringle, and Mr. Shirley Ogilvie have purchased a controlling interest. Fairbanks Brothers, stock brokers, were engaged to look after the Purchase of the stock. The syndicate began the purchase at 85 and followed it along, fixing various figures for the blocks, until to-day the stock stands at \$140 per share or better. Major Stephens said that they all four considered it the best industrial in Canada and they proposed to better the business upon a much larger scale than at present. Mr. D. L. McGibbon, in referring to the

growth of the company within the past few years, stated that they had almost doubled their output in 36 months. And in that interval nearly \$500,000 worth of profits had gone into betterments, such as new machinery and generally improved plant. The present output of the works is over \$3,000,000 worth of goods per year, and the hands employed number 2000. Last year the company paid a 5 per cent. dividend and previous to that 8 per cent. The difference is accounted for by the fact that a large sum was put into betterment. Some years back the Canadian Co. lost ground to a considerable extent, and there was a general shake up in the management. It was at this period that Mr. D. Lorne McGibbon took hold, and it was mainly through his energetic measures that the corporation began to take on new life. Within three years the company made wonderful headway and it is now looked upon as one of the sterling industrial corporations of Canada. Back in 1902 the stock sold as low as \$50 a share, while last year it was quoted at from \$45 to \$50. Since that time there has been a steady and rapid increase in the price of the stock. The authorized capital is \$2,000,000, of which \$1,500,000 have been paid in.

RUBBER RECLAIMING PATENT LITIGATION.

A BILL of complaint was filed on November 30 in the United States circuit court for the eastern district of Pennsylvania at Philadelphia by the Philadelphia Rubber Works, and the U. S. Rubber Reclaiming Works, acting as joint complainants against the S. & L. Rubber Co., of Chester, Pa., for alleged infringement of United States patent No. 454,442, which covers a process of washing reclaimed rubber, as well as the product itself. The complainants seek an injunction restraining the defendant from alleged further infringement of the patent in question and an accounting to determine the extent of the damages they claim to have suffered. The complainants declare that other actions may be instituted in maintenance of the exclusive rights claimed under the patent.

CINCINNATI RUBBER MANUFACTURING CO.

CONSIDERING the happy auspices under which the Cincinnati Rubber Manufacturing Co. began, it would seem to be as much goodness of heart as business prudence which prompted their recent house warming, on December 9. The company's plant is on the Baltimore and Ohio railroad, in Norwood, a suburb of the Queen City, and both Norwood and the "B. & O." helped to entertain the 300 representative business men and citizens at the plant, where the visitors were shown all the processes of turning the crude rubber into finished goods. After the tour of the plant, lunch was served in the packing room, and speeches were made by President Crawford, of the company, Mr. Tomlinson, of the B. & O., Mayor Mills, of Norwood, and others. The B. & O. conveyed the guests to and from the plant in a special train. The Cincinnati Rubber Manufacturing Co. were incorporated on April 8, 1905, and their plant was set up in less than three months. They expect to reach their full capacity soon, when they will be able to do about \$1,000,000 worth of business a year. The company are to be praised for their courtesy, and for their efforts to popularize their industry, in a community where there is little general information regarding it.

GEORGE BORGFELDT & CO.—TWENTY-FIFTH ANNIVERSARY.

MESSRS. GEORGE BORGFELDT & CO. (New York), in connection with the holiday season, have presented their compliments to their friends in the trade, accompanied by a handsome souvenir in the shape of a book counting the history of the development of this important importing house, which has just now completed its twenty-fifth year. It is profusely illustrated with exterior and interior views of their great establishment in New York, and numerous branches in other cities, and portraits of

their official and clerical staffs, including a portrait of the late Mr. Borgfeldt, which appears as a frontispiece. One of the interior views is devoted to their rubber goods department, in connection with which is the American agency for the Hannoverische Gummi-Kamm Co., A.-G. On the same page is a portrait of Mr. Julius Lehman, who received his first business training with the Hanover company, and for 21 years has been their representative with the Messrs. Borgfeldt.

BOSTON BELTING CO'S. ANNUAL.

At the annual meeting of shareholders of the Boston Belting Co., on November 28, President James Bennett Forsyth stated that while the business of the company had been good during the year, a better showing might have been made but for the unprecedented cost of rubber and the other raw materials used. In response to questions asked at the meeting, President Forsyth explained the maintenance of a surplus practically as large as the capital stock by saying that the management had in view the erection of a more modern plant in order that the company might be better prepared to meet the new conditions of competition. This was in answer to the suggestion that extra dividends from time to time would be warranted by the condition of the company as shown by the balance sheet. The board of directors was reelected, with the exception that George H. Forsyth was succeeded by William H. Furber, who a number of years ago was connected with the company in the days when the late John G. Tappan was treasurer. The financial condition of the company is set forth in the following details, the business year ending on September 30:

ASSETS.			
	1903.	1904.	1905.
Real estate.....	\$ 100,000	\$ 100,000	\$ 100,000
Machinery.....	50,000	50,000	50,000
Material on hand....	861,371	736,119	955,847
Cash and debts receivable	959,056	1,144,269	980,545
Trade marks.....	100	100	100
Miscellaneous.....	550	550	550
Total.....	\$1,971,077	\$2,031,038	\$2,087,042
LIABILITIES.			
Capital stock.....	\$1,000,000	\$1,000,000	\$1,000,000
Surplus.....	800,000	800,000	800,000
Profit and loss.....	171,077	231,038	287,042
Total.....	\$1,971,077	\$2,031,038	\$2,087,042
PROFIT AND LOSS.			
Balance from previous year.....			\$231,038
Interest on bonds and bank deposit.....			32,498
Profits.....			79,662
Miscellaneous receipts.....			2,570
Total.....			\$345,768
Dividends.....	\$ 80,000		
Bad debts.....	4,745		
Credit balance.....	261,042		\$345,768

TRADE NEWS NOTES.

A REPORT is current that the management of the United States Rubber Co. have under consideration a large new bond issue, designed first as a measure for consolidating and refunding the existing issues, and secondly, to provide funds for new undertakings. Interest is added to this report by the fact that at the special shareholders' meeting called for January 3, as reported on another page, a vote will be taken on amending the by-law relating to the issue of bonds.

=The Derby Rubber Co. (Derby, Connecticut) have filed in the office of the secretary of state of Connecticut a certificate of increase of their capital stock from \$50,000 to \$200,000. Mr. William F. Askam, who lately became general manager, has removed his residence from Milford Point, Conn., to Shelton, in order to be nearer the reclaiming works.

=The rubber shoe department of The B. F. Goodrich Co. (Akron, Ohio) is now running in excellent shape, making a ticket of 1700 pairs of the "Straight Line" goods, a detailed description of which will appear in a later issue of this Journal.

=Chicago Fire Hose Co. (No. 54 La Salle street, Chicago) have become sole distributors, in the territory which they regularly cover, of the fire hose products of The B. F. Goodrich Co. (Akron, Ohio)

=Mr. John P. Lyons, advertising manager of the United States Rubber Co., is spending at Redlands, California, a more extended vacation than he has before enjoyed during the 12 years of his occupancy of this office. During the absence of Mr. Lyons his place will be filled by Mr. Robert E. Chumasero.

=As is usual at the beginning of the year, several changes have been made in the location of the selling staff of the United States Rubber Co. Mr. Arthur Reeve comes from the Boston office of the United States Rubber Co. to the New York office. Mr. Henry G. Armstrong who has been traveling for sometime past will have charge of stock in New York at No. 90 Thomas street. Mr. P. A. Manley comes from the Lycoming Rubber Co., (Williamsport, Pennsylvania) to the New York office. Mr. A. F. Solbery, selling agent of the Boston Rubber Shoe Co., goes from Boston to Chicago. Mr. E. L. Phipps, who represented the company for several years in New York, returns to the Boston office, No 101 Milk street.

=The Hard Rubber Co. of America, the incorporation of which was reported in THE INDIA RUBBER WORLD, August 1, 1905 (page 388), will apply on January 8 to the New York supreme court for an order authorizing the said corporation to change its name to the American Hard Rubber Co. As already reported in these pages, there is involved a reorganization of the present American Hard Rubber Co. (New York), with a largely increased capital.

=John C. Byxbee, of Meriden, Connecticut, has been elected president of the Canfield Rubber Co. (Bridgeport, Conn.), the Hon. Ratcliffe Hicks having resigned that position.

=The Marion Insulated Wire and Rubber Co. (Marion, Indiana) are understood to be planning to increase their capacity largely in the near future. For some weeks past the factory has been working overtime.

=The two factories of the Woonsocket Rubber Co. were closed on Saturday evening, December 23, to reopen on January 2.

=Mr. D. A. Cutler, formerly chemist for the Manhattan Rubber Manufacturing Co., has accepted a position with the Continental-Mexican Rubber Co. (New York) and, in addition to expert chemical work in connection with their product, will devote himself to the marketing of it.

=Mr. William J. Gorham, president of the Gorham Rubber Co. (San Francisco), made a recent business visit to New York and Boston, returning home in time for the holidays.

=Improvements and additions continue to be made at the works of the National India Rubber Co. (Bristol, Rhode Island). Plans have been adopted for a new fireproof storehouse, brick, 300 X 50 feet, part 3 stories and part 4. The company have decided to make their own paper boxes, of which a great number are needed for the packing of various products of the mill. The box manufacture will begin with the production of 10,000 per day.

=Harvey W. Leech, a retail dealer in rubber goods, No. 18 East Swan street, Buffalo, New York, filed a petition in voluntary bankruptcy in the United States district court on November 20; liabilities, \$9738.36; assets, \$2710. Herbert A. Hickman, an attorney, was chosen trustee, at a meeting of the creditors.

=As an indication of the gradual decline in the wearing of rubber boots, it may be mentioned that recently a number of employes of the Millville factory of the Woonsocket Rubber Co.—a mill devoted hitherto to making boots exclusively—were set to work making shoes.

=The board of the Dunlop Tire and Rubber Goods Co. (Toronto, Ontario), we omitted to mention in our notice of the company last month, consists of Warren Y. Soper (Ottawa), president; E. B. Ryckman, vice president; John Westren, secretary, treasurer and manager; Hon. George A. Cox and A. T. Kirkpatrick.

=Fisk Limited (Montreal, Quebec), manufacturers of leather and shoe goods, have a cement factory at Lachine, Quebec, regarding which they inform THE INDIA RUBBER WORLD: "We are buying quite a little crude India rubber and doing a nice little business in rubber cement. We hope in a short time to add to our plant and make another line of goods."

=Mr. E. C. Clark, who has established himself in rubber mill engineering in St. Louis, making a specialty of rubber reclaiming plants, has become very busy in this field, having executed during the last two years several commissions in the United States and abroad. He is at present getting out plans for a small acid reclaiming plant to be installed by a mechanical rubber goods factory in Japan. This is the first reclaiming plant to be installed in that country.

=The United States Rubber Co. have notified their customers that after January 1 all orders should be addressed to the general offices in New York.

=The Fisk Rubber Co. (Chicopee Falls, Massachusetts) have filed with the Interstate Commerce Commission a complaint against railways operating west of Chicago, alleging unreasonable and discriminating rates on rubber tires. While the Fisk Rubber Co. alone are named in the complaint, it is understood that the other rubber tire manufacturers are interested and in sympathy with the movement.

=As reported in our issue of July 1, 1905 (page 352), the decision in the action of the Haskell Golf Ball Co. v. Hutchinson, Maine & Co., for alleged infringement of patent, in the London chancery court, was appealed from by the plaintiff. The case is on the calendar of the current term, to be heard as soon as the prior cases can be disposed of, and at last reports was expected to be reached either just before or just after the Christmas holidays.

=Textile Machine Works (Reading, Pennsylvania), manufacturers of braiding and knitting machinery, have recently added to their list several new machines. For the rubber hose manufacture they are building a line of high grade braiders which can be used for making hose in lengths up to 500 feet; also a line of braiders with horizontal pull out which can be used in tandem for applying two or three braided coverings in one operation.

=C. J. Bailey & Co. (Boston, Mass.) have been so busy filling orders for "Won't Slip" tires that they neglected to advise THE INDIA RUBBER WORLD of a reduction in the price list of their specialties listed in their regular advertisement. A card covering the list will be mailed to those interested.

=Grieb Rubber Co. Inc. (Trenton, New Jersey), in addition to their long established line of soles, heels, and sheet soling, are building up an excellent business in molded specialties for mechanical and other uses, the quality of which is equal to the Grieb products which have been several years longer in the market.

=The regular annual meeting and dinner of the Hood Rubber Jobbers' Western Association occurred in Chicago on December 28, being well attended.

=The H. O. Canfield Co. (Bridgeport, Connecticut) will move early in January into a new plant on Housatonic avenue, in which they are installing a new Rollins-Corliss engine and new machinery made by the Birmingham Iron Foundry, all of the latest and best designs. They will have a thoroughly modern mill room and over twice the floor space occupied hitherto, giving them increased facilities and an opportunity to do more business. The new plant was to be ready for occupancy by January 1, and the removal will be made as speedily as possible.

=Schwab & Co., large dealers in waste rubber scrap and other waste materials, in Philadelphia, have removed to larger premises at Nos. 418-420 South Front street, where they will have more space than was available in their former location, in Webster street.

=The Garlock Packing Co. (Elmira, New York) have established a factory in Hamburg, Germany, to supply Continental wants for their special packings.

=The Goodyear Tire and Rubber Co. (Akron, Ohio) would appear to have a knowledge of Holy Writ, for a late booklet of theirs has, as a subhead, "For the Edification of the Man whose Name is Thomas."

=At the third annual Electrical Show, held recently in Madison Square Garden, New York, the Clifton Manufacturing Co. (Jamaica Plain, Mass.) had an excellent exhibit covering tire ape, conduit, and kindred goods.

=The coupon due January 1, upon the ten year 4½ per cent. good debentures of the General Rubber Co. is payable upon presentation at the office of the First National Bank, New York.

=The Alling Rubber Co., who control retail rubber stores in a number of Connecticut towns, are opening an additional store at Pittsfield, Massachusetts.

=The footwear departments of the rubber factories at Naugatuck, Connecticut, were closed on December 23, to reopen on January 2. The other departments of the Goodyear's India-Rubber Glove Manufacturing Co. were closed only on Christmas and New Year's. The "Old Shop," on Rubber avenue, was closed on December 23, indefinitely.

=The National India Rubber Co. will, it is understood, be large shippers, by the new Enterprise line of steamers plying between Bristol (Rhode Island) and New York. The rubber company make daily shipments of their goods to New York, including lots for the South and West, besides constantly receiving raw materials from New York, and the sailing schedule of the new line, it is reported, affords superior conveniences for all the purposes referred to.

=A fire occurred on December 1 in the store of The Fisk Rubber Co., No. 318 Euclid avenue, Cleveland, Ohio, damaging the building to the extent of \$1000 and the stock of automobile tires to about \$3000.

=The Salem Rubber Cement and Shoe Findings Co. (Salem, Massachusetts) are building new premises which will render possible an important increase in their capacity. The business was established in 1892 and incorporated in 1899 under the laws of Maine. The company's trade extends throughout the United States and Canada, besides which they are exporters to an important extent.

=The Interborough Vehicle Rubber Supply Co. (No. 423 East Seventy-sixth street, New York), on December 11, through two of the directors, La Mott Hartshorn and Joseph Backora, applied to the New York supreme court for the voluntary dissolution of the corporation, formed under the state laws July 1, 1905, with capital stated at \$10,000. Judge Stover has set down the order to show cause for March 16. La Mott Hartshorn was appointed temporary receiver.

=W. P. Cowell, who has for nearly 18 years been traveling salesman for different houses through Ohio and Pennsylvania, has gone into the rubber jobbing business and will be known as the Pittsburgh Rubber Supply Co., locating at Nos. 723-725 Liberty street, Pittsburgh, Pennsylvania.

=The Merchants Rubber Co., Limited (Berlin, Ontario) have applied to the Dominion government for supplementary letters patent for the increase of their capital stock from \$100,000 to \$250,000.

=The St. John Rubber Tire Co. Inc. (No. 116 Broad street, New York), are to exhibit their cushion tires at the automobile show at the Sixty-ninth Regiment armory, in New York, this month, a special feature being a White steamer equipped with their tires which has just returned from several months' touring in the States.

=Work was resumed early in December by the Suffolk Rubber Co. (Setauket, Long Island), after a shutdown of several weeks, reported to have been due to a disagreement within the management. This is stated to have ended in the purchase of the interest of Franz Cutler, who had been secretary and treasurer, by the Joseph W. Elbersen contingent in the company.

=The list of supplies for which bids were opened on December 2 by the New York department of correction—which has the administration of the city prisons and workhouse—included 100 pairs of rubber boots and 50 rubber coats.

=The firm of King & Leatherow has been formed at Newark, New Jersey, to manufacture advertising balloons and other rubber novelties. It is composed of Horace H. King, until now a member of King & Howe, Limited, balloon manufacturers, and Walter Leatherow, who has been factory superintendent of the Rubber Balloon Co. of America.

=Angie W. Pierce, for many years in the employ of the National India Rubber Co. (Bristol, Rhode Island), and since 1897 superintendent of the druggists' sundries department, resigned recently, being succeeded by H. A. Duval, who hitherto has been assistant superintendent of the Tyer Rubber Co. (Andover, Massachusetts). On the evening of December 14 Mr. Pierce was pleasantly surprised at his home by a party of employees of the druggists' sundries department at the National factory, who presented him with a handsome library chair, after which a few hours were pleasantly devoted to an impromptu concert, Mr. Angie and a number of his friends being particularly devoted to music.

=Negotiations have been completed for the removal of the factory of the Amazon Rubber Co. from Jamestown, New York, to Bradford, Pennsylvania, conditioned upon the sale of \$150,000 in 6 per cent. bonds, covered by a mortgage on the proposed new plant, which bonds are expected to be taken in Bradford.

=Suit has been filed in the New York supreme court by Charles Blake Cisco, as assignee of a claim from the New York-Broadway Rubber Tire Co. (a selling concern), against the Goodyear Tire and Rubber Co. (Akron, Ohio), to recover \$150,000, in respect of an alleged breach of contract. It is claimed that under a contract dated November 4, 1903, the defendant company agreed to deliver to the complainant as many tires as might be called for within a given period, at the prices then prevailing. Later, it is asserted, the Goodyear Tire company refused to longer deliver tires at the contract prices, by reason of which the plaintiff claims to have been deprived of a large amount of profitable business. It is understood that the Goodyear company claim that the contract expired at an earlier date than alleged on the other side; that no violation of the contract occurred; and that a balance of \$10,000 is due from the New York-Broadway Rubber Tire Co., to recover which amount a counter suit has been filed.

THE COMING AUTOMOBILE SHOWS.

WHEN the sixth annual show of the Automobile Club of America is opened in New York on Saturday evening, January 13, the public will have its first view of the magnificent new armory of the Sixty-ninth Regiment, the most convenient entrance of which will be on Twenty-sixth street near Fourth avenue, with other entrances on Lexington avenue and Twenty fifth street. The cost of this big structure is placed at \$1,500,000, and the spacious exhibition hall possesses what is probably the largest brick arch of the world. With everything new and thoroughly up to date, this huge building will supply a spacious home for perhaps the most comprehensive exposition of the automobile industry ever held in this country. Gasoline, steam, and electric vehicles, both for pleasure and business purposes, will be attractively distributed, with space left for all sorts of accessories and sundries; in fact, everything connected with the industry will be given a place in the extensive show.

The sixth National Automobile Show, at Madison Square Garden, New York, will begin on Saturday evening, January 13, and continue through all of the following week. The show this season will be under the auspices of the Association of Licensed Automobile Manufacturers. As usual, all the spaces will be filled, and the show may be expected to be of great interest, not only in respect of automobiles in general but also of the rubber tire production—This show is to be followed, as usual, by an exhibition, under the same auspices, in Chicago, in the week from February 3 to 10.

PERSONAL MENTION.

COLONEL THEODORE A. DODGE, whose interests in the rubber business have been very large, and whose circle of friends and acquaintances is extensive, is permanently settled in Paris, where he is devoting his time to the completion of a second volume of his history of Napoleon. The Colonel is hale and hearty, although not quite as active as formerly, and whenever he meets one who knows anything about the rubber trade in America sends greetings to his friends across the sea.

=Mr. Eliot M. Henderson, vice president of the Manhattan Rubber Manufacturing Co. (New York), on his recent trip from Southampton to Cape Town, had a rough weather experience that does not come to every traveler. The weather was such that not only were the dead lights that cover the ports smashed to the number of 8 or 10, but boats were broken and carried away, deck houses wrecked, and the iron bulwarks on the port side for many feet crushed flat to the deck. The vessel, however, reached harbor without accident to any passenger.

=A late report gives particulars of the death of Mr. Page. [See page 106.] It seems that he was a passenger on the *Bufo*, coming down the river from the Bolivian port of Villa Bella. About October 7 he was taken sick with bilious fever and on the 13th passed away, at 4 o'clock in the afternoon. The remains were taken ashore at the barraca Nichteroy, which is in the state of Amazonas and on the left bank of the Madeira river, and on the following day it was interred in a place called the Bibosi. His effects were turned over to Parlo Fehre, manager of the house of R. Suarez & Co. (Pará). As soon as possible the American consul at Pará, Mr. Louis A. Aymé, was notified, and he in turn notified his friends and relatives in the United States, as well as the assistant secretary of state at Washington.

A NEW steamer on the Amazon, intended for the Acre river traffic, is called the *Seringueiro*, which is the Brazilian word for rubber cutter. It was built at Glasgow and has a registered tonnage of 103½.

THE RUBBER TRADE IN AKRON.

BY A RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Not for many years has there been such a general increase in the manufacturing capacity of the rubber plants of Akron as during the year just closed. Scarcely a company but reports additions to its factory, and increased capacity and improved machinery. The remarkable demand for automobiles and the fact that Akron is so important a tire manufacturing center is one explanation of the constant increase in business here. Another is the great diversity of uses to which rubber is now being put. This is really the dull season of the year, or rather is preliminary to it, on account of the inventories that usually are taken in January; yet manufacturers are extremely busy.

The principal increase in factory space in any one plant in Akron was to the plant of The B. F. Goodrich Co., on account of the addition of a new department, for the manufacture of rubber boots and shoes. This is a large $3\frac{1}{2}$ story brick building, and is already filled with machinery and a working force for the first year's output. The company have also made other additions to the working capacity. The capital stock of the company was increased lately from \$5,000,000 to \$10,000,000.

The Diamond Rubber Co. have grown steadily in business and capacity, having built a large addition to the office, which was finished and occupied in February; a two story addition 40×60 feet to the laboratory; a 50×90 washing room at the South Akron plant; a two story addition 20×16 as a receiving room; an additional one story 120×60 on a former one story building for general packing purposes. Besides, a large new additional engine has been put in, which increases the engine capacity to over 2000 HP. The company have also increased their capital stock from \$1,750,000 to \$3,500,000.

One of the newer companies which shows a large increase in business is the Firestone Tire and Rubber Co. This company has increased its general facilities 200 per cent. and its milling capacity 150 per cent. The floor space has been trebled during the year. The company at a special meeting of the general stockholders on December 2 authorized an increase in capital from \$200,000 to \$500,000, and on the same day the directors took the necessary steps to carry out the instructions. The increase has been authorized by the state of West Virginia, under whose laws the company is capitalized. The company has added the past year a three story building with basement to care for the increase in the regular business and for the manufacture of the new mechanically fastened pneumatic tire which the company is beginning to advertise. It also added a one story addition 50×100 feet to provide for needed warehouse room and for more milling capacity. New machinery, an 800 HP. engine for which an engine house was built, an electric light plant, air compressors and other machinery have been installed.

The new Swinehart Clincher Tire and Rubber Co. is adding an entirely new department by erecting a large one story building 20×170 feet for a reclaiming plant. The company has purchased two acres of land from the American Cereal Co. at the rear of the Swinehart plant, and within a month expects to be able to occupy the addition. The walls will be temporary until next spring, when concrete walls can be built, and the roof will be permanent. Rubber will be reclaimed under a secret process worked out by J. A. Swinehart under which he claims to be able to bring waste rubber nearer to the original state than by any other method. The company has orders for its output from local manufacturers. The demand for the solid rubber tires of the company is the chief reason for the plant being trebled in its capacity, which it will be in a few weeks. The solid tire de-

partment will be doubled in capacity. The company will devote considerable effort to a pneumatic tire, however.

The Goodyear Tire and Rubber Co. added an engine room 90×40 feet, a power room 110×48 feet and a dry room 160×34 feet. The equipment has been increased by a 2000 HP. engine and miscellaneous machinery, so that the power capacity has been trebled. Automobile tires continue to be the main output, with the company's pneumatic golf ball being one of its best advertised new products.

The Buckeye Rubber Co. added during the year a single story vulcanizing room 42×70 feet, and put in equipment to match.

The Stein Double Cushion Tire Co. in East Akron is larger at present by an additional vulcanizing room 60×40 feet, and a new machine shop. The factory has doubled the capacity that it had a year ago, and instead of being constantly behind in its orders, the company is constantly up with its work.

No new buildings were added to the big local plant of the American Hard Rubber Co., but the departments were all shifted about, and new machinery replaced the old. Three new boilers were put in to replace the old.

The Miller Rubber Manufacturing Co. has added new equipment but no buildings. Like all the other plants it has been busy constantly.

The only change in Barberton, a suburb, was the practical consolidation of the Alden Rubber Co. and the Pure Gum Specialty Co., and the erection of a new plant of the Aladdin Rubber Co., organized some months ago. This building is 120×60 feet, and is completed. The machinery is being installed, and the company expects to be reclaiming rubber early in February. Boilers, engines and mill are being set up as rapidly as possible.

The Faultless Rubber Co. has made additions to its plant here as well as in Ashland. At the latter place the capacity of the plant was increased by a two story structure 50×100 feet. The addition to the Akron plant is four stories high, 45×25 feet. Both additions are for purely manufacturing purposes.

The Motz Tire and Rubber Co. recently has established a headquarters in a large manufacturing plant for assembling purposes.

The M. & M. Manufacturing Co. is commencing a more active campaign than any yet carried on in the interest of its rubber cement and acid solution, a preparation coming into considerable popularity, especially for tire users. The company has been in business on a partnership basis for two years, but recently was incorporated, and is making preparations for an extensive business. The company has a plant on Carroll street 35×200 feet long. F. C. Milhoff is the head and active manager of the plant and company. Electric power, a new mixer and equipment and additions costing about \$8000 have recently been added. The company manufactures the "M. & M. Cement and Acid Cure Solution," a combination of cements and acid cure solutions that it claims will produce the necessary chemical action and give better results than a steam vulcanizer and do it in from 3 to 5 minutes.

Mr. A. H. Marks is expected home from England about January 1. He has been in Liverpool where he went to attend the annual meeting of the Northwestern Rubber Co., of which he is president, and arrange the business of the company for another year.

Charles B. Stacey, who resigned recently his position with The B. F. Goodrich Co., with which he had been connected for 14 years, being latterly manager of the mechanical department, and removed to Atlantic City, New Jersey, where he has purchased a residence.

THE RUBBER FROM THE "CYRIL."

ALL the rubber salvaged from the cargo of the steamer *Cyril*, which went down in the Amazon on September 6, has found its way to Liverpool, where it was disposed of at auction on December 13 and 20, at very good prices. The first sale embraced about 689 cases, described as follows: "Without guarantee the fine and entrefine contains 3 per cent., the negro-heads 25 per cent., and the ball [Peruvian] 15 per cent. more rubber than usual. The rubber shows no signs of change, nor does it appear to have become sandy." Ten case Manáos fine, "new large biscuits, hard brown cure," brought 5s. 3¼d. [= \$1.29¼] per pound, and other grades in proportion. The 180 cases sold December 20 were described as containing about 5 per cent. more water than the first offerings, and a few lots about 1 per cent. sand.

Thus is closed a most interesting incident in the rubber trade. Not only was a large quantity of rubber rescued from a sunken ship, but every piece of it was identified, so that it was possible for the auctioneer to catalogue 102 lots, in this style:

Lot.	Marks.	Cases.	Rubber.	Description.
I.	AHA	62	Pará fine.	New very wet hard brown and white cure, few slightly touched with E'fine, few Rio Negro. (Fair)
	F			
[Sold at 5s. 3d.]				

REVIEW OF THE CRUDE RUBBER MARKET.

PRICES are higher again at this date than one month ago, and the comparative table of quotations for Pará grades which appears on this page shows them to be considerably higher than one year ago. There have been fluctuations meanwhile, of course, but the net result of the twelve-month is a higher price level, despite a larger production in the Amazon region. The firmness of tone in the New York market apparently is not due to any pressure on the part of buyers on this side of the Atlantic. Of late European buying has been more active, and both in New York and Europe the tendency of prices is attributed to conditions in the primary markets, where, in spite of larger receipts than usual, holders show a firm disposition.

Receipts at Pará (including Caucho) since the beginning of the crop season have been as follows:

	1902.	1903.	1904.	1905.
July	1200	1280	1250	1450
August	1370	1230	1260	1300
September	1670	2010	1780	2200
October	2280	2440	2820	3580
November	2650	2980	2800	2890
December	2990	3530	3390	2775
Total	12,250	13,470	13,300	14,235
[a—To December 28.]				

At the Antwerp sales on December 15, of 339 tons offered, 325 were sold at an average advance of 35 centimes, equal to about 3 per cent. over the brokers' estimations, based upon results of the November sale. The next sale will occur January 24. Messrs. C. Schmid & Co., Successeurs, report results attained at the last sale, for important lots:

Kilos.	DESCRIPTION.	Valuation.	Sold at.
1,156	Ceylon Biscuits	16.00	16.50
25,609	Congo Sangha	10.40	10.80—10.85
16,959	Congo Kasai red	11.10	11.22½
16,542	Congo Djuma	7.75	8.35
3,835	Congo Lobay	12.25	12.65
22,150	Upper Congo—Batouri	10.50	10.80—10.85
10,240	Upper Congo—Aruwimi	10.10	10.80
13,587	Upper Congo—Aruwimi small red spindles	10.75	11.02½

—and ultimately the record contained also the price paid for each lot. The first item in the catalogue, as do a number of others, relates to rubber consigned from Manáos by Adelbert H. Alden.

PARKER, STEARNS & CO. (New York city), December 8, 1905, under New York laws; capital \$450,000. This succeeds the corporation of Parker, Stearns & Sutton, formed in 1892, and composed of Messrs. Russell Parker, James H. Stearns, and B. Franklin Sutton, manufacturers of druggists' sundries. Messrs. Parker and Stearns became associated in business in 1879, Mr. Sutton joining them in 1885. Mr. Sutton is now retiring from business altogether. The president of the new corporation is Mr. Parker; the vice president is Mr. Stearns; and the secretary is Mr. Henry C. Burton, who for a number of years has been the company's manager. Mr. W. H. Harding, Jr., of New York, is also a director.

THE rubber importing firm of Poel & Arnold (New York) expired by limitation on December 31, and on January 2 is succeeded by Poel & Arnold, under new articles of copartnership, the members being Frank Poel, C. H. Arnold, and A. Fleischmann.

14,260	Upper Congo—Lake Leopold	11	11.25	12.15—12.27½
14,218	Upper Congo—Mongalla	10	60	10.70
19,708	Upper Congo—Maringa	5	25	5.32½—5.52½
2,640	Angola thimbles	11	25	11.50
5,843	Upper Congo—Equateur	12	30	12.72½

Following is a statement of prices of Pará grades, one year ago, one month ago, and on December 30—the current date:

PARA.	January 1, '05.	December 1, '05.	December 30.
Islands, fine, new	114@115	119@120	124@125
Islands, fine, old	none here	none here	none here
Upriver, fine, new	119@120	122½@123½	129@130
Upriver, fine, old	none here	none here	none here
Islands, coarse, new	65@ 66	71@ 72	75@ 76
Islands, coarse, old	none here	none here	none here
Upriver, coarse, new	93@ 94	90@ 91	96@ 97
Upriver, coarse, old	none here	none here	none here
Caucho (Peruvian) sheet	69@ 70	73@ 74	74@ 75
Caucho (Peruvian) ball	79@ 80	88@ 89	91@ 92

AFRICAN.		CENTRALS.	
Sierra Leone, 1st quality	103@104	Esmeralda, sausage.....	@89
Massai, red.....	103@104	Guayaquil, strip.....	@76
Benguella.....	84@ 85	Nicaragua, scrap.....	@85
Cameroon ball.....	71@ 72	Panama, slab.....	@67
Accra flake.....	26@ 27	Mexican, scrap.....	@88
Lopori ball, prime....	112@113	Mexican, slab.....	@66
Lopori strip, prime....	94@ 95	Mangabeira, sheet.....	@70
Madagascar, pinky....	92@ 93	EAST INDIAN.	
Ikelemba.....	113@114	Assam.....	@98
		Borneo.....	@49

Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine.	5\$500	Upriver, fine.....	6\$500
Islands, coarse	2\$500	Upriver, coarse.....	4\$400
Exchange, 16½d.			

Last Manáos advices:

Upriver, fine	6\$500	Upriver, coarse	4\$000
Exchange, 16½d.			

NEW YORK RUBBER PRICES FOR NOVEMBER (NEW RUBBER).

	1905.	1904.	1903.
Upriver, fine	1.21@1.24	1.16@1.31	92@1.02
Upriver, coarse	89@ 91	89@ 98	78@ 83
Islands, fine	1.18@1.21	1.12@1.26	90@ 98
Islands, coarse	68@ 72	62@ 73	54@ 58
Cametá	69@ 72	63@ 72	53@ 58

In regard to the financial situation, Albert B. Beers (ticker in India rubber, No. 68 William street, New York) advises us as follows:

"During December the demand for paper has been light and irregular, city banks taking but little, and the small buying by out-of-town ones has been at rates running from $5\frac{1}{2}$ @ 7 per cent. for the various rubber names."

Tires at the Olympia Motor Show.

Statistics of Para Rubber (Excluding Caucho).

	NEW YORK.		Total 1905.	Total 1904.	Total 1903.
	Fine and Medium.	Coarse.			
Stocks, October 31.....tons	190	31 =	227	9	82
Arrivals, November.....	799	482 =	1281	1285	1166
Aggregating.....	995	513 =	1508	1294	1248
Deliveries, November.....	841	513 =	1354	1287	1216
Stocks, November 30.	154	0 =	154	7	32

	PARÁ.			ENGLAND.		
	1905.	1904.	1903.	1905.	1904.	1903.
Stocks, Oct. 31.....tons	155	105	345	310	111	435
Arrivals, November...	2725	2720	2890	1270	994	1035
Aggregating.....	2880	2885	3235	1580	1105	1470
Deliveries, November.	2485	2345	3040	1075	925	1100
Stocks, Nov. 30...	395	549	195	505	180	370

World's visible supply, November 30.. tons	2334	2067	2618
Pará receipts, July 1 to November 30.....	10610	9331	9296
Pará receipts of Caucho, same dates.....	770	599	594
Afloat from Pará to United States, Nov. 30..	443	520	1017
Afloat from Pará to Europe, November 30....	837	820	1034

United States Crude Rubber Imports.

[TEN MONTHS—JANUARY-OCTOBER—FOR THREE YEARS.]

FROM	1905.	1904.	1903.
United Kingdom.....	7,980,826	6,136,479	7,841,737
Germany.....	1,877,149	2,089,912	3,716,890
Other Europe.....	7,594,205	9,163,577	7,800,784
Central America.....	913,681	1,115,008	1,142,248
Mexico.....	235,292	305,647	406,719
West Indies and Brazil.....	14,475	12,886	5,522
Brazil.....	26,084,588	28,282,456	29,058,906
Other South America.....	1,359,395	353,157	1,617,528
East Indies.....	425,437	439,809	2,753,766
Other Countries.....	6,201	12,270	45,917
Total.....	46,404,340	49,951,326	54,480,017
Value.....	\$28,668,164	\$34,315,180	\$40,124,377

Rubber Receipts at Manaos.

DURING November and five months of the crop season for three years [courtesy of Messrs. Scholz & Co.]:

FROM	NOVEMBER.			JULY-NOVEMBER.		
	1905.	1904.	1903.	1905.	1904.	1903.
Rio Purús—Acre..... tons	414	497	512	2287	1694	1613
Rio Madeira.....	320	216	199	1258	1249	1208
Rio Juruá.....	361	260	468	978	665	882
Rio Javary—Iquitos.....	479	302	304	1486	1158	1070
Rio Solimões.....	148	144	123	478	258	306
Rio Negro.....	40	15	32	52	33	49
Total.....	1762	1434	1638	6539	5057	5128
Caucho.....	188	124	44	715	458	472
Total.....	1950	1558	1682	7254	5515	5600

Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers for carload lots, in cents per pound—show a decline in several items, as follows:

Old Rubber Boots and Shoes—Domestic.....	7½ @ 7¾
Do —Foreign.....	7¼ @ 7½
Pneumatic Bicycle Tires.....	6¼ @ 6½
Solid Rubber Wagon and Carriage Tires.....	8½ @ 8¾
White Trimmed Rubber.....	10½ @ 11

Heavy Black Rubber.....	5¾ @ 6
Air Brake Hose.....	3¾ @ 3¾
Fire and Large Hose.....	3 @ 3¼
Garden Hose.....	2¾ @ 2½
Matting.....	1¼ @ 1½

Para.

KANTHACK & Co. report [December 11]:

With a growing feeling of confidence, a general and sustained demand has prevailed, and although supplies continue on quite a liberal scale, the power of absorption has been equally good. Prices have not only been steady throughout, but have lately experienced some improvement, a firm tone being noticeable at the close.

London.

EDWARD TILL & Co. report stocks [December 1]:

	LONDON		
	1905.	1904.	1903.
Pará sorts..... tons	—	—	—
Borneo.....	49	30	20
Assam and Rangoon.....	52	4	4
Penang.....	357	—	—
Other sorts.....	204	558	250
Total.....	662	592	274

	LIVERPOOL		
	1905.	1904.	1903.
Pará.....	504	178	374
Caucho.....	96	94	28
Other sorts.....	466	643	509
Total, United Kingdom.....	1728	1507	1185
Total, November 1.....	1372	1307	1185
Total, October 1.....	1489	1666	866
Total, September 1.....	1694	1508	1564
Total, August 1.....	1728	1764	1781
Total, July 1.....	1750	1920	5285

PRICES PAID DURING NOVEMBER.

	1905.	1904.	1903.
Pará fine, hard.....	5/ 2½ @ 5/ 3½	4/ 11½ @ 5/ 5½	3/ 10 @ 4/ 2
Do soft.....	5/ 1½ @ 5/ 2¼	4/ 11 @ 4/ 5	4/ 3 @ 4/ 9
Negroheads, scrappy.....	3/ 10½ @ 3/ 11	3/ 9½ @ 3/ 11½	3/ 3 @ 3/ 4¾
Do Cametá.....	2/ 11¾ @ 3/ 2	2/ 9½ @ 2/ 10½	2/ 3½ @ 2/ 5½
Bolivian.....	5/ 2¾ @ 5/ 3¾	None sold	4/ @ 4/ 2
Caucho, ball.....	3/ 9¼ @ 3/ 10¼	3/ 5 @ 3/ 6½	3/ 3 @ 3/ 4¾
Do slab.....	3/ 1½ @ 3/ 2	2/ 11½ @ 3/ 1	2/ 6½ @ 2/ 9
Do tails.....	No sales	2/ 8½ @ 3/ 2½	2/ 10

Liverpool.

WILLIAM WRIGHT & Co. report [December 1]:

Fine Pará—There has been more demand for spot rubber. Prices have only fluctuated slightly, closing quotation being 5s. 3d. for Up-river, and 5s. 2d. for Islands. For delivery there has been a strong demand, especially for January-February and February-March, which still continues, 5s. 2¾d. to 5s. 3d. being to-day's value. To our mind this presages the probability of a strong American demand during the heavy month's receipts. During next month it is possible prices may react slightly, but all present indications point to a strong demand and no material break in prices. A very large business could have been done in delivery for next year, but sellers declined to operate freely, which is not to be wondered at, when Manaos prices are 2½d. per pound over those ruling here, and a further cause of hesitation is due to the uncertainty of American action in the near future. Present rates, from a manufacturer's point of view, are, we think, fairly safe.

EDMUND SCHLÜTER & Co. report [November 30]:

Pará Rubber.—The early part of the month was under the influence

SPECIAL NOTICE.

Party wanted with capital to invest in well established rubber plant, to assume active part and fill position as treasurer. Splendid opportunity for the right party. Address CAPITAL, care of "The India Rubber World."

(894)

FOR RENT.

FOUR Floors, 50 x 70 feet, in a nearly new brick factory building. Equipped with line shafting on each floor; Automatic Sprinklers throughout the building; Houser freight elevator; light, heat, and power furnished. For particulars write WILLIAM YERDON, Fort Plain, New York.

[798]

of predicted large receipts during November and December, and although the actual receipts in November were only moderate, the market at the close is still—even in a lesser degree—under the same influence. Since we issued our last monthly report Manãos indications are unanimous in predicting smaller receipts during January-March, 1906, than during January-March, 1905. If this is borne out by the facts, and considering the large deliveries which have taken place (July-October, 1905, about 1300 tons more than July-October, 1904, and July-November, probably 1500 tons more) it may be safe to assume that supplies will not be too large and prices, temporary fluctuations excepted, not go lower. We give the reports of an expected mild winter in the United States and Canada, for what they are worth; if correct they may mean no advance in the value of rubber, which otherwise, and in the circumstances mentioned, would be probable rather than possible.

WORLD'S VISIBLE SUPPLY OF PARAS, NOVEMBER 30.

	1905.	1904.	1903.	1902.	1901.
Tons.....	2830	2224	2900	3167	3359
Prices, hard fine.....	5/3	5/5½	4/	3/4½	3/7

LIVERPOOL STOCKS OF AFRICAN RUBBER, NOVEMBER 30.

1905.....	307	1902.....	473	1899.....	533
1904.....	443	1901.....	648	1898.....	400
1903.....	198	1900.....	802	1897.....	354

Antwerp.

ANTWERP RUBBER STATISTICS FOR NOVEMBER.

DETAILS.	1905.	1904.	1903.	1902.	1901.
Stocks, Oct. 31 <i>kilos</i>	554,483	710,860	876,637	350,138	266,105
Arrivals in Nov.....	624,835	336,701	361,895	235,231	683,521
Congo sorts.....	472,977	267,777	303,483	201,172	670,807
Other sorts.....	151,858	69,924	58,412	34,059	22,714
Aggregating.....	1,178,868	1,047,561	1,238,532	585,369	949,626
Sales in November.....	543,572	435,825	558,390	399,408	106,325
Stocks, Nov. 30.....	635,296	611,726	680,142	185,961	843,301
Arrivals since Jan. 1.....	5,230,553	5,182,012	5,088,325	4,604,749	5,644,282
Congo sorts.....	4,006,203	4,001,231	4,580,456	4,232,804	5,234,931
Other sorts.....	1,224,350	980,781	507,869	371,945	409,351
Sales since Jan. 1.....	5,145,618	5,181,186	5,066,288	4,833,497	5,414,930

RUBBER ARRIVALS AT ANTWERP.

NOVEMBER 20.—By the *Philippeville*, from the Congo:

Bunge & Co.....	(Société Générale Africaine) <i>kilos</i>	152,000
Do.....	.....	31,000
Do.....	(Chemins de fer Grand Lacs)	16,000
Do.....	.....	70,000
Do.....	(Sultanats du Haut Ubangi)	19,000
Charles Dethier.....	.....	1,000
Do.....	(Société La "M'Poko")	6,000
Edmond Van Steensel.....	(Cie. Bruxelloise du Haut Congo)	1,500
M. S. Cols.....	(Société Baniemba)	1,000
Do.....	(Mr. C. D'Heygere)	2,000
Société Coloniale Anversoise.....	.....	7,000
Do.....	(Belge du Haut Congo)	2,000
Comptoir des Produits Coloniaux (Société N'Goko)	.....	2,500
Do.....	(Ekela Kadei Sangha)	3,500
Société General de Commerce.....	Société La Lobay	4,000
Cie. Commerciale des Colonies (Cie. de l'N'Keme et l'N'Ken)	.....	4,500
Do.....	(La Haut Sangha)	3,000
Société Equatoriale Congolaise.....	(Société l'Ikelemba)	1,500

PARA RUBBER VIA EUROPE.

DEC. 1.—By the <i>Cedric</i> =Liverpool:	POUNDS
New York Commercial Co (Fine).....	18,000
Poel & Arnold (Coarse).....	80,000
DEC. 18.—By the <i>Etruria</i> =Liverpool:	
New York Commercial Co. (Fine).....	11,000
DEC. 21.—By the <i>Cedric</i> =Liverpool:	
Poel & Arnold (Coarse).....	33,000
Poel & Arnold (Cauché).....	115,000
DEC. 26.—By the <i>Caronia</i> =Liverpool:	
New York Commercial Co. (Fine).....	28,000

OTHER ARRIVALS AT NEW YORK.

NOV. 24.—By the <i>Alena</i> =Caribbean:	POUNDS
G. Amsinck & Co.....	2,500
NOV. 24.—By the <i>Albanca</i> =Colon:	
Hirzel, Feltman & Co.....	8,000
Lawrence Johnson & Co.....	5,160
G. Amsinck & Co.....	3,700
A. Santos & Co.....	3,600
Roldan & Van Sickle.....	2,400
Dumarest Bros. & Co.....	2,600
R. B. Strout.....	2,400
J. A. Medina & Co.....	1,700

DECEMBER 12.—By the *Anversville*, from the Congo:

Bunge & Co.....	(Société Générale Africaine) <i>kilos</i>	327,000
Do.....	.....	35,000
Do.....	(Chemins de fer Grand Lacs)	11,500
Do.....	.....	17,000
Comptoir Commercial Congolais.....	(ABIK)	17,700
Société Coloniale Anversoise (Cie. Française du Haut Congo)	.....	2,000
Do.....	(Belge du Haut Congo)	9,000
Do.....	.....	1,000
Do.....	(Süd Kamerun)	5,000
Do.....	(Cie. du Kasai)	75,000
M. S. Cols.....	(Société l'Ikelemba)	1,500
Do.....	Mr. C. D'Heygere	500
L. & W. Van de Velde.....	.....	15,000

Ceylon Exports (Plantation Rubber).

DETAILS—BY WEEKS.

POUNDS.	POUNDS.
January 1 to Oct. 23.....	107,056
Week ending Oct. 30.....	4,075
Week ending Nov. 6.....	1,943
Week ending Nov. 13.....	7,017
Week ending Nov. 20.....	999
Total to Nov. 20.....	121,090
Same period, 1904.....	62,641
Same period, 1903.....	38,215

DESTINATION.

Great Britain.....	87,767	Belgium.....	9,297
Germany.....	16,234	Australia.....	1,152
United States.....	6,594	Holland.....	125

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

December 5.—By the steamer *Basil*, from Manãos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Cauché.	Total.
New York Commercial Co.	216,300	49,100	74,200	.....	339,600
Poel & Arnold.....	97,400	18,500	105,800	2,900	224,600
A. T. Morse & Co.....	102,900	11,200	17,000	.....	131,100
General Rubber Co.....	40,800	5,300	40,900	2,100	98,100
Neale & Co.....	.....	.....	48,000	.....	48,000
Hagemeyer & Brunn.....	9,900	2,400	18,900	.....	31,200
L. Hagenaers & Co.....	19,000	.....	5,800	.....	24,800
Edmund Reeks & Co.....	8,000	700	12,900	.....	21,600

Total..... 494,300 87,200 332,500 5,000= 919,000

December 18.—By the steamer *Maranhense*, from Manãos and Pará:

New York Commercial Co.	136,500	27,600	74,600	2,700	291,400
Poel & Arnold.....	87,900	27,400	91,300	1,800	208,400
A. T. Morse & Co.....	70,800	20,800	40,000	11,600	149,200
General Rubber Co.....	18,300	5,500	52,000	.....	76,700
Edmund Reeks & Co.....	26,200	4,200	8,500	300	39,200
Hagemeyer & Brunn.....	23,400	2,800	2,100	.....	28,300
L. Hagenaers & Co.....	15,000	.....	4,200	.....	19,200
Neale & Co.....	10,500	1,400	5,700	.....	17,600
Constantine P. San Tos.....	7,200	300	600	.....	8,100
Neuss & Hesslein Co.....	1,600	300	900	700	3,500

Total..... 447,400 90,300 286,800 17,100= 841,600

December 26.—By the steamer *Hubert*, from Manãos and Pará:

A. T. Morse & Co.....	175,700	27,900	73,000	2,100	278,700
Poel & Arnold.....	149,600	26,600	55,700	6,200	238,100
New York Commercial Co.	146,600	30,500	35,300	1,800	214,200
General Rubber Co.....	38,700	14,500	67,700	1,800	122,700
Neale & Co.....	.....	.....	45,500	.....	45,500
L. Hagenaers & Co.....	24,300	.....	4,300	.....	28,600
C. P. San Tos.....	8,200	3,600	5,600	600	18,000
Edmund Reeks & Co.....	10,000	1,100	6,200	.....	17,300
Hagemeyer & Brunn.....	7,800	2,300	1,200	.....	11,300

Total..... 560,970 106,500 294,500 12,500= 974,470

[NOTE.—The steamer *Amazonense* from Pará, is due at New York, January 4, with 650 tons Rubber.]

CENTRALS.—Continued.

POUNDS	POUNDS
Piza, Nephews & Co.....	2,100
Charles E. Griffin.....	1,000
Silva, Bussening & Co.....	800
Smithers, Nordenholt & Co.....	500
Meyer Hecht.....	500
Harburger & Stack.....	600
Isaac Kuble & Co.....	500
NOV. 25.—By the <i>Duania</i> =Liverpool:	
George A. Alden & Co.....	45,000
NOV. 25.—By the <i>S. Guaraná</i> =Mexico:	
E. Steiger & Co.....	1,000
Harburger & Stack.....	1,000

CENTRALS.—Continued.

Fred. Probst & Co.	700	
Thebaud Brothers	500	3,200
Nov. 27.—By the <i>New York</i> =London:		
Poel & Arnold	22,500	
Nov. 28.—By the <i>San Marcos</i> =Mobile:		
A. T. Morse & Co.	2,800	
Eggers & Heinlein	1,500	
European Option	2,500	6,800
Nov. 28.—By the <i>Alleghany</i> =Colombia:		
John Boyd, Jr. & Co.	2,000	
A. A. Lindo & Co.	500	2,500
Nov. 28.—By the <i>Titan</i> =Bahia:		
Hirsch & Kaiser	11,200	
American Commercial Co.	3,500	14,700
DEC. 1.—By the <i>Finance</i> =Colon:		
Hirzel, Feltman & Co.	23,800	
Mann & Emdon	3,500	
G. Amsinck & Co.	2,200	
J. A. Medina & Co.	700	30,200
DEC. 1.—By the <i>Proteus</i> =New Orleans:		
A. T. Morse & Co.	2,500	
Manhattan Rubber Mfg. Co.	2,000	4,500
DEC. 2.—By the <i>El Alba</i> =Galveston:		
Continental Mexico Co.	11,500	
DEC. 4.—By the <i>Yucatan</i> =Mexico:		
E. Steiger & Co.	1,500	
Harburger & Stack	700	
H. Marquardt & Co.	700	
European Account	15,000	17,900
DEC. 6.—By the <i>Advance</i> =Colon:		
Lawrence Johnson & Co.	4,400	
Roldan & Van Sickle	5,800	
G. Amsinck & Co.	5,400	
Hirzel, Feltman & Co.	5,000	
Mecke & Co.	3,700	
J. A. Medina & Co.	2,900	
Isaac Brandon & Bros.	1,300	
American Trading Co.	1,100	
E. B. Strout	1,400	
Dumarest Bros. & Co.	1,100	
A. Santos & Co.	1,000	
George A. Alden & Co.	900	
Meyer Hecht	500	34,500
DEC. 8.—By the <i>Virginia</i> =Greytown:		
E. B. Strout	3,500	
W. R. Grace & Co.	700	
Eggers & Heinlein	1,000	
Hirzel, Feltman & Co.	800	
G. Amsinck & Co.	500	6,500
DEC. 8.—By the <i>Excellior</i> =New Orleans:		
A. T. Morse & Co.	7,500	
A. N. Rotholz	2,500	
Eggers & Heinlein	2,000	
G. Amsinck & Co.	1,500	13,500
DEC. 9.—By the <i>Trent</i> =Colombia:		
E. B. Strout	3,000	
A. M. Capens Sons	3,500	
Czarnikow McDougal Co.	500	7,000
DEC. 11.—By the <i>Esperanza</i> =Mexico:		
Graham, Hinkley & Co.	1,500	
E. N. Tibbals Co.	500	
E. Steiger & Co.	500	2,500
DEC. 12.—By the <i>Altai</i> =Colombia:		
A. & T. Henry	2,500	
Kunhardt & Co.	1,500	
Roldan & Van Sickle	1,500	
John Boyd, Jr. & Co.	1,500	
American Trading Co.	1,000	
G. Amsinck & Co.	800	
Isaac Brandon & Bros.	700	
A. D. Straus & Co.	500	10,000
DEC. 13.—By the <i>Terence</i> =Bahia:		
Hirsch & Kaiser	11,000	
American Commercial Co.	3,500	14,500
DEC. 13.—By the <i>Mexico</i> =Colon:		
Hirzel, Feltman & Co.	19,700	
Andean Trading Co.	1,700	21,400
DEC. 13.—By the <i>El Dia</i> =Galveston:		
New York Commercial Co.	22,500	
DEC. 16.—By the <i>St. Paul</i> =London:		
Poel & Arnold	8,000	
General Rubber Co.	3,000	11,000
DEC. 16.—By the <i>Minnetonka</i> =London:		
General Rubber Co.	15,000	
George A. Alden & Co.	13,000	28,000
DEC. 18.—By the <i>Vigilancia</i> =Mexico:		
H. Marquardt & Co.	2,500	
Harburger & Stack	2,500	

CENTRALS.—Continued.

E. Steiger & Co.	500	
Graham, Hinkley & Co.	800	
George A. Faber	500	
Samuels Brothers	700	7,500
DEC. 18.—By the <i>Havana</i> =Colon:		
Mann & Emdon	6,100	
Piza, Nephews & Co.	1,500	
J. A. Medina & Co.	1,900	
Lawrence Johnson & Co.	1,400	
G. Amsinck & Co.	1,000	
Harburger & Stack	400	12,300
DEC. 18.—By the <i>El Sud</i> =Galveston:		
Continental Mexico Co.	7,000	
Flint & Co.	500	7,500
DEC. 20.—By the <i>El Monte</i> =New Orleans:		
A. N. Rotholz	3,000	
A. T. Morse & Co.	2,000	
Manhattan Rubber Mfg. Co.	1,000	6,000
DEC. 20.—By the <i>Sarnia</i> =Costa Rica:		
G. Amsinck & Co.	4,500	
A. A. Lindo & Co.	1,500	
Roldan & Van Sickle	1,000	
Lawrence Johnson & Co.	800	
Mecke & Co.	500	8,300
DEC. 21.—By the <i>Byron</i> =Bahia:		
Poel & Arnold	26,500	
Hirsch & Kaiser	12,000	
L. Johnson & Co.	1,500	
American Commercial Co.	9,000	49,000
DEC. 22.—By the <i>Proteus</i> =New Orleans:		
A. T. Morse & Co.	3,500	
DEC. 32.—By the <i>Orinoco</i> =Greytown, etc.:		
E. B. Strout	3,000	
Schellton & Schofeld	2,000	
American Trading Co.	1,000	
Meyer Hecht	500	
J. A. Medina & Co.	500	
Pedro A. Lopez	500	7,500
DEC. 26.—By the <i>Bayamo</i> =Mexico:		
Thebaud Brothers	1,000	
H. Marquardt & Co.	600	
Harburger & Stack	500	
European Account	11,500	13,600

AFRICANS.

	POUNDS.	
Nov. 23.—By the <i>Georgie</i> =Liverpool:		
Poel & Arnold	66,000	
F. R. Muller & Co.	11,000	77,000
Nov. 24.—By the <i>Pennsylvania</i> =Hamburg:		
Poel & Arnold	14,000	
A. T. Morse & Co.	11,000	
George A. Alden & Co.	11,000	
Rubber Trading Co.	6,500	42,500
Nov. 25.—By the <i>Lucania</i> =Liverpool:		
George A. Alden & Co.	17,500	
Nov. 27.—By the <i>Minneapolis</i> =London:		
George A. Alden & Co.	11,500	
Nov. 27.—By the <i>Amerika</i> =Hamburg:		
George A. Alden & Co.	18,000	
A. T. Morse & Co.	16,000	
Poel & Arnold	5,500	
Rubber Trading Co.	3,500	
General Rubber Co.	6,500	49,500
Nov. 28.—By the <i>Armenian</i> =Liverpool:		
F. R. Muller & Co.	29,000	
DEC. 1.—By the <i>Cedric</i> =Liverpool:		
George A. Alden & Co.	27,500	
Poel & Arnold	13,500	
F. R. Muller & Co.	16,000	
A. W. Brunn	11,500	68,500
DEC. 4.—By the <i>Umbria</i> =Liverpool:		
George A. Alden & Co.	70,000	
Robinson & Tallman	6,000	76,000
DEC. 8.—By the <i>Kroontand</i> =Antwerp:		
Poel & Arnold	190,000	
A. T. Morse & Co.	190,000	
George A. Alden & Co.	112,000	
Western Electric Co.	22,500	
General Rubber Co.	17,500	532,000
DEC. 8.—By the <i>Baltic</i> =Liverpool:		
George A. Alden & Co.	78,000	
Robinson & Tallman	6,500	
Poel & Arnold	2,000	
Rubber Trading Co.	2,000	88,500
DEC. 11.—By the <i>Patricia</i> =Hamburg:		
A. T. Morse & Co.	30,000	
Rubber Trading Co.	6,000	
Poel & Arnold	5,000	41,000

AFRICANS.—Continued.

DEC. 11.—By the <i>Carmania</i> =Liverpool:		
George A. Alden & Co.	14,000	
Joseph Cantor	11,000	
A. T. Morse & Co.	5,000	30,000
DEC. 11.—By the <i>Borie</i> =Liverpool:		
George A. Alden & Co.	56,000	
General Rubber Co.	34,000	90,000
DEC. 12.—By the <i>Sloterdyk</i> =Rotterdam:		
Poel & Arnold	15,000	
DEC. 13.—By the <i>Vaderland</i> =Antwerp:		
Poel & Arnold	150,000	
George A. Alden & Co.	26,000	
Joseph Cantor	18,000	194,000
DEC. 14.—By the <i>Majestic</i> =Liverpool:		
A. T. Morse & Co.	18,000	
DEC. 15.—By the <i>Victorian</i> =Liverpool:		
A. W. Brunn	15,500	
George A. Alden & Co.	3,000	18,500
DEC. 16.—By the <i>Pentinsular</i> =Lisbon:		
General Rubber Co.	40,000	
DEC. 16.—By the <i>Bordeaux</i> =Havre:		
George A. Alden & Co.	14,000	
DEC. 16.—By the <i>Minnetonka</i> =London:		
George A. Alden & Co.	5,000	
DEC. 18.—By the <i>Pretoria</i> =Hamburg:		
George A. Alden & Co.	15,500	
DEC. 18.—By the <i>Etruria</i> =Liverpool:		
A. T. Morse & Co.	11,500	
George A. Alden & Co.	7,000	18,500
DEC. 18.—By the <i>Finland</i> =Antwerp:		
Rubber Trading Co.	6,000	
DEC. 19.—By the <i>Blucher</i> =Hamburg:		
George A. Alden & Co.	11,500	
A. T. Morse & Co.	5,500	17,000
DEC. 21.—By the <i>Oceanic</i> =Liverpool:		
F. R. Muller & Co.	40,000	
Poel & Arnold	34,000	
George A. Alden & Co.	16,000	90,000
DEC. 26.—By the <i>Caronia</i> =Liverpool:		
Poel & Arnold	56,000	
A. T. Morse & Co.	16,000	
George A. Alden & Co.	18,000	90,000
EAST INDIAN.		
Nov. 27.—By the <i>Minneapolis</i> =London:		
George A. Alden & Co.	25,000	
Poel & Arnold	1,000	26,000
Nov. 27.—By the <i>Amerika</i> =Hamburg:		
A. T. Morse & Co.	3,000	
DEC. 2.—By the <i>Afghan Prince</i> =Singapore:		
Poel & Arnold	60,000	
A. T. Morse & Co.	13,500	
F. R. Muller & Co.	11,500	85,000
DEC. 4.—By the <i>Manchacha</i> =London:		
George A. Alden & Co.	3,000	
Poel & Arnold	2,500	
H. W. Peabody & Co.	1,000	6,500
DEC. 5.—By the <i>La Gascogne</i> =Havre:		
Poel & Arnold	2,000	
DEC. 5.—By the <i>Serra Blanca</i> =Singapore:		
George A. Alden & Co.	78,000	
Pierre T. Belts	9,000	
A. T. Morse & Co.	11,000	
Robert Branns & Co.	11,500	109,500
DEC. 13.—By the <i>Maine</i> =London:		
George A. Alden & Co.	15,000	
D. A. Shaw & Co.	5,500	20,500
DEC. 14.—By the <i>Seneca</i> =Singapore:		
George A. Alden & Co.	25,000	
Pierre T. Belts	22,500	
Poel & Arnold	11,500	
F. R. Muller Co.	4,500	63,500
DEC. 16.—By the <i>St. Paul</i> =London:		
A. T. Morse & Co.	11,500	
DEC. 16.—By the <i>Minnetonka</i> =London:		
Robinson & Tallman	4,500	
George A. Alden & Co.	4,500	9,000
DEC. 18.—By the <i>Pretoria</i> =Hamburg:		
Earle Brothers	3,500	

INDIA-RUBBER—Continued.

Dec. 18.—By the <i>Deutchland</i> =Colonbo:	
George A. Alden & Co.	1,000
American Trading Co.	1,000
Dec. 19.—By the <i>Thames</i> =Singapore:	
Heabler & Co.	27,500
A. T. Morse & Co.	28,000
Dec. 21.—By the <i>Salsum</i> =Singapore:	
F. R. Muller & Co.	27,000
Pierre T. Betts	17,500
Poel & Arnold	11,500
D. A. Shaw & Co.	4,500

GUTTA-JELUTONG.

Dec. 2.—By the <i>Ughu</i> =Singapore:	
Heabler & Co.	155,000
George A. Alden & Co.	365,000
F. R. Muller & Co.	50,000
Poel & Arnold	150,000
Dec. 5.—By the <i>Sierra Blanca</i> =Singapore:	
George A. Alden & Co.	45,000
Heabler & Co.	110,000
Pierre T. Betts	25,000
Robert Branss & Co.	55,000
Dec. 14.—By the <i>Sineco</i> =Singapore:	
George A. Alden & Co.	295,000
Robert Branss & Co.	125,000
Robinson & Tallman	150,000
Dec. 19.—By the <i>Albenga</i> =Singapore:	
George A. Alden & Co.	225,000
Heabler & Co.	110,000
Dec. 21.—By the <i>Salsum</i> =Singapore:	
J. W. Phyfer & Co.	55,000

GUTTA-PERCHA AND BALATA.

Nov. 24.—By the <i>Pennsylvania</i> =Hamburg:	
To Order	7,000
Nov. 27.—By the <i>Minneapolis</i> =London:	
R. F. Muller & Co.	13,500

GUTTA-PERCHA AND BALATA—Continued.

Dec. 5.—By the <i>Serra Blanca</i> =Singapore:	
To Order	115,000
Dec. 14.—By the <i>Sineco</i> =Singapore:	
George A. Alden & Co.	34,000
Poel & Arnold	11,500
Heabler & Co.	11,500
Dec. 16.—By the <i>Manetouka</i> =London:	
Henry A. Gould Co.	17,500
Dec. 18.—By the <i>Pretoria</i> =Hamburg:	
To Order	37,000

BALATA.

Nov. 24.—By the <i>Maraval</i> =Cuidad Bolivar:	
Middleton & Co.	7,000
A. H. Wappans	45,000
Dec. 12.—By the <i>Sloterdyk</i> =Rotterdam:	
Earle Brothers	11,500
Dec. 13.—By the <i>Maine</i> =London:	
Earle Brothers	10,000
Dec. 18.—By the <i>Pretoria</i> =Hamburg:	
Earle Brothers	5,500

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—NOVEMBER.

Imports:	POUNDS.	VALUE
India-rubber.....	4,373,403	\$3,667,179
Gutta-percha.....	12,181	12,865
Gutta-jelutong (Pontianak)...	1,486,676	71,303
Total.....	5,872,260	\$3,751,347
Exports:	POUNDS.	VALUE
India-rubber.....	27,518	\$ 19,801
Reclaimed rubber.....	326,010	35,716
Rubber Scrap Imported.....	1,943,380	\$149,326

BOSTON ARRIVALS.

	POUNDS.
Oct. 2.—By the <i>Michigan</i> =Liverpool:	
George A. Alden & Co.—African....	11,105
Oct. 2.—By the <i>Saxonia</i> =Liverpool:	
Poel & Arnold—African....	10,528
Oct. 17.—By the <i>Sachem</i> =Liverpool:	
F. R. Muller & Co. African....	5,560
Oct. 25.—By the <i>Sagamore</i> =Liverpool:	
Poel & Arnold—African.....	12,313
Oct. 30.—By the <i>Devonian</i> =Liverpool:	
Poel & Arnold—African....	2,506
Poel & Arnold—Caucho.....	34,869
Total.....	76,881
[Value, \$45,664.]	

	POUNDS.
Nov. 4.—By the <i>Saxonia</i> =Liverpool:	
George A. Alden & Co.—African....	6,754
George A. Alden & Co.—Caucho.....	84,480
Nov. 8.—By the <i>Michigan</i> =Liverpool:	
George A. Alden & Co.—African.....	10,374
Nov. 15.—By the <i>Marquette</i> =Antwerp:	
George A. Alden & Co.—African.....	30,522
Nov. 20.—By the <i>Sachem</i> =Liverpool:	
Poel & Arnold—African.....	7,047
Nov. 21.—By the <i>Sachem</i> =Liverpool:	
F. R. Muller & Co.—African....	5,891
Nov. 27.—By the <i>Sagamore</i> =Liverpool:	
George A. Alden & Co.—Fine Par ..	3,671
Nov. 27.—By the <i>Bulgaria</i> =Hamburg:	
Poel & Arnold—African.....	5,654
Total.....	154,398
[Value, \$103,151.]	

OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
October, 1905.....	4,803,749	413,335	4,390,414
January-September.....	49,676,268	2,356,825	47,319,443
Ten months, 1905.....	54,480,017	2,770,160	51,709,857
Ten months, 1904.....	49,951,326	2,884,587	47,066,739
Ten months, 1903.....	46,495,455	2,058,223	43,537,232

GERMANY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
October, 1905.....	4,138,420	1,738,440	2,399,980
January-September.....	33,791,120	12,538,900	21,252,220
Ten months, 1905.....	37,929,540	14,277,340	23,652,200
Ten months, 1904.....	29,682,620	7,787,780	21,894,840
Ten months, 1903.....	28,516,400	9,751,500	18,764,900

FRANCE.*

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
October, 1905.....	19,182,900	12,190,640	6,992,260
January-September.....	19,182,900	12,190,640	6,992,260
Ten months, 1905.....	19,182,900	12,190,640	6,992,260
Ten months, 1904.....	17,210,180	9,367,600	7,842,580
Ten months, 1903.....	13,195,820	7,619,040	5,576,780

BELGIUM.*

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
October, 1905.....	2,571,706	1,979,287	592,419
January-September.....	12,953,283	9,492,946	3,460,337
Ten months, 1905.....	15,529,959	11,472,233	4,057,726
Ten months, 1904.....	15,058,005	12,605,992	2,392,013
Ten months, 1903.....	13,949,599	10,595,017	3,354,582

GREAT BRITAIN.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
October, 1905.....	4,971,904	2,818,592	2,153,312
January-September.....	46,466,224	25,599,392	20,866,832
Ten months, 1905.....	51,438,128	28,417,984	23,020,144
Ten months, 1904.....	45,566,416	26,909,910	18,656,506
Ten months, 1903.....	44,926,000	32,337,424	12,588,576

ITALY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
October, 1905.....	140,140	4,400	135,740
January-September.....	1,244,100	222,420	1,021,680
Ten months, 1905.....	1,384,240	226,820	1,157,420
Ten months, 1904.....	1,269,840	103,180	1,166,660
Ten months, 1903.....	1,286,120	126,720	1,159,400

AUSTRIA-HUNGARY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
October, 1905.....	188,760	5,500	183,260
January-September.....	2,275,680	21,780	2,253,900
Ten months, 1905.....	2,464,440	27,280	2,437,160
Ten months, 1904.....	2,297,990	18,920	2,278,980
Ten months, 1903.....	2,400,420	22,660	2,377,760

NOTE.—German statistics include Gutta-percha, Balata, old (waste) rubber, and substitutes. British figures include old rubber. French, Austrian, and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

* General Commerce. † Special Commerce.

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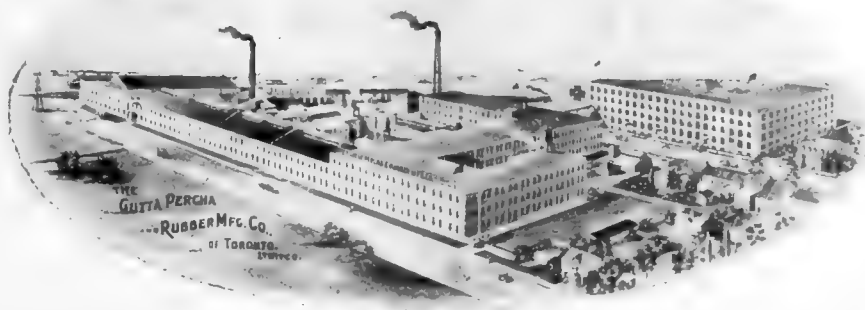
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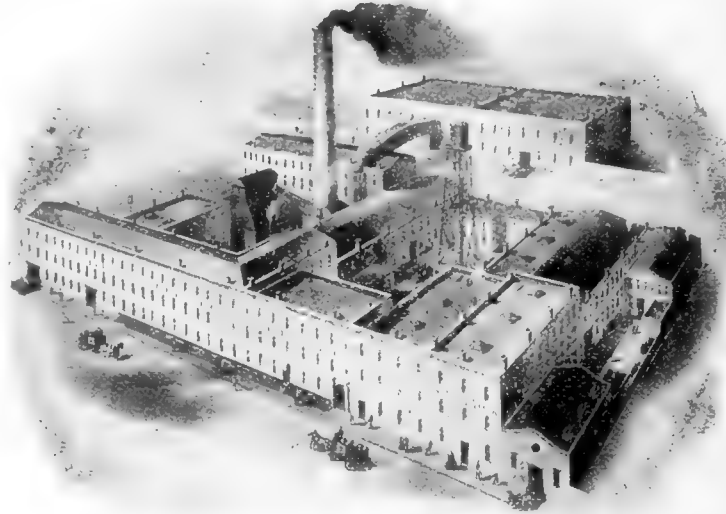
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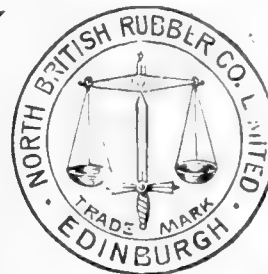
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RUBBER FROM NEGLECTED SOURCES.

HARKING back to the ancient history of the rubber trade, in fact to the beginning of the reclaimed rubber business, does any one recall with what scorn the first lots of "shoddy" were received? It took rubber manufacturers many years to even try the stuff. When after a time they experimented with it and discovered it useful, they did it in a shamefaced manner and, if they were not talented liars themselves, hired superintendents who were, who resolutely denied that they used a pound of the despised product. Nor did any one believe that the business would ever be a large one. To-day it is accepted as one of the necessities of the trade, and indeed, were it not for reclaimed rubber, the price of crude would be simply out of sight.

A business that is very similar to the reclaimed rubber business and that offers a field fully as important, quite as large or larger, and undoubtedly more profitable, is the mechanical extraction of rubber from the lesser producers of the gum, that is, shrubs, vines, tubers, and latex bearers of that ilk. Thousands of tons of rubber of good quality, are to-day practically wasted because these sources of supply are not exploited in a scientific manner. We all laugh at the "rabbit weed" proposition in Colorado and justly; many laugh at the Guayule proposition in Mexico and unjustly. This is because one shrub does not contain rubber that can be, by any mechanical means, yet devised, taken out profitably, while the other, in a small way, to be sure, has been proved a success.

In the writer's opinion, the great mass of rubber to come eventually from treatment of the minor rubber producers, will not come from the Mexican shrub. It is perfectly possible that the Ceará rubber tree, which produces abundant milk and in which the quality of the milk is just as good in a year old plant as it is in one a century old may be planted as an annual crop, and its lusty first year's growth of twelve feet harvested just as sugar cane is.

There is more rubber in one Ceará stalk than there is sugar in one stalk of cane, and sugar sells for 5 cents a pound and Ceará rubber for twelve times as much. Again it may be that the *Hevea* or the *Castilloa* may lend themselves to such annual harvesting and even if the rubber does contain more resin, it is worth fully 50 cents a pound, which ought to bring a good working profit, once a mechanical process is perfected that will enable work on a large scale. Lest some of the rubber agnostics should claim that no great amount of rubber can come from such despised sources, we would ask them to ponder on the source of 3,000,000 pounds of Benguela rubber that have come into the market in a single year. If they are very agnostic they probably won't know and it is with much gratification that we enlighten them. Benguelas come from the roots of a small shrub dug up by lazy natives, scraped in water, half of the product be-

ing wasted, and even then the business is profitable. With a practical extraction plant and with natives bringing hundreds of tons of these roots to it, is it not reasonable to suppose that the product could be increased and its value much enhanced? We might go further and cite a half score of other sources, but it is hardly worth while.

We do pause to say, however, that ten years from now a vast amount of rubber will come regularly to the market from such sources as those mentioned. The agnostics will have forgotten their pessimistic prophecies then and will be looking ahead for something else in the line of progress to carp at.

IS THE TIDE TURNING?

THE Editor of THE INDIA RUBBER WORLD has been much besieged by questioners, promoters, investors, lawyers, and others, for information regarding rubber culture in Mexico. The inquiries as a rule came down to one final query: "Will rubber trees grow in Mexico under cultivation and produce rubber?" Really two questions in one. That the *Castilloa* species will flourish in Mexico under proper conditions no one can contradict. Whether it will produce rubber in paying quantities, some might be able to say, "Yes," but the proof was not forthcoming. In other words, of all the plantations that have been installed in the last seven or eight years throughout the *tierra caliente*, none as far as the knowledge of the writer went were actually producing rubber regularly or in any shape except sample lots—really not much more than laboratory experiments.

There are no doubt numbers of plantations owned by Mexicans that produce a certain amount of rubber annually from cultivated trees. No records, however, have been kept of amounts gathered or prices received, and it is probable that such rubber, carelessly collected, has passed as the product of wild trees. All that the writer could do therefore, was to say that cultivated trees certainly did grow and grow vigorously, that it was his belief that they would produce rubber abundantly but that he did not know of actual shipments of such rubber. In a recent letter, however, from Mr. James C. Harvey, part owner of "La Buena Ventura" plantation, a man who not only has a broader knowledge of rubber planting in Mexico than almost any other, but one whose carefulness and sincerity are above question, the following statement is made:

I took out 350 pounds of fine, clean scrap this year from some of my seven year old trees, and on the whole the results were quite gratifying. The rubber was divided between the Boston Belting Co. and the Hood Rubber Co., and it netted me 92½ cents a pound.

The writer has been over every foot of Mr. Harvey's plantation, saw the trees of which he speaks when they were thrifty four year olds, and while he has no information as to how many trees were tapped or what the cost of the rubber to Mr. Harvey might be, he hails this report as the first tangible evidence that properly conducted plantations in Mexico will be rubber producers. Investors in rubber plantations in that country have certainly learned a severe lesson, for all the mistakes that could possibly be made have been made, and it is only fair to those who have played the game fairly and intelligently that the successes, even

though small at first, be recorded and that all legitimate encouragement be given to what should be a great American industry.

CANADIAN IMPORTS OF RUBBER GOODS have declined 20 per cent. during the last two years, and as there is reason for believing that the total Canadian consumption has increased during that period, the enterprising manufacturers of the Dominion are to be congratulated upon the fact. At the same time, the rubber men of the United States will find consolation in knowing that imports from this side the border have not shared in the decline.

THE RUBBER TIRE MAKERS are to be congratulated upon the steady improvement in their products, as evidenced at each succeeding yearly automobile show. Without doubt each of the leading factories is now turning out the best tires it is capable of making. But in view of the superiority of the tires of to-day over those of five years ago, it is probable that the limit of development is far from being reached.

THE OPEN WINTER, however it may be regarded by the rubber footwear makers, ought to prove a good thing for the tire trade, on account of the greater opportunity it affords for the use of automobiles.

AFFAIRS OF THE UBERO COMPANIES.

THE Tolosa Rubber Co. has been formed with headquarters at No. 176 Federal street, Boston, to succeed the Ubero Plantation Co. of Boston, the troubles of which were reported at length in these pages some months ago. Claudius W. Rider is president, William L. Wadleigh, treasurer, and the other directors, Charles T. Crocker, Sr., Frank Bryden, George H. Terpany, Levi R. Greene, William F. Sinclair, and Edwin O. Childs.==The reorganization committee of the Consolidated Ubero Plantations Co. also issues a circular to investors, stating that sufficient funds have been subscribed to the new company, the United States Plantation Co., to warrant putting the reorganization into effect and calling upon the subscribers to pay up.

At the annual meeting of the Marion Insulated Wire and Rubber Co. (Marion, Indiana) a new board was elected, consisting of J. L. Barley, Robert J. Spencer, L. C. Lillard, John Prior, M. L. Lewis, and R. E. Lucas. Mr. Barley was elected president, Mr. Spencer vice-president, Hiram Beshore treasurer, and Mr. Lucas secretary and general manager. The capital has been increased 30 per cent. recently, and the board ordered the purchase of additional machinery.

A SUIT was reported in our last issue as having been filed by the Philadelphia Rubber Works and the U. S. Rubber Reclaiming Works against the S. & L. Rubber Co. (Chester, Pennsylvania) for alleged infringement of patent No. 454,442, which covers a rubber reclaiming process. The suit, it seems, was not filed by these companies, but by individuals connected with them. The S. & L. Rubber Co., in their answer filed to the suit, deny employing the process described in the patent, and also the validity of the patent, on the ground that the process was used by the president of the present S. & L. Rubber Co. before the date of the patent.

PLANS FOR RUBBER EXPLOITATION IN PERU.

THE rubber resources of southeastern Peru, long known to the outside world only in an indefinite way, now appear likely to be developed on an important scale in the near future. Readers of THE INDIA RUBBER WORLD from its earliest issues may recall a number of articles, at one time or another, pointing to the existence of rubber of good quality over practically the whole of Peru east of the Andes, but for the most part its exploitation was long confined to that portion of the country accessible by means of the Amazon. Now considerable quantities are shipped from the port of Iquitos, direct by ocean steamers to Europe, although Iquitos is about 2000 miles from the seaboard.

But the region thus provided with means of transportation is exceeded in scope by the region lying westward of Bolivia—a region singularly landlocked—and cut off from the Pacific coast by the mountain range. Communication with the outside world, so far as the native Indians are concerned, does not exist; there is even scarcely communication with the national capital, Lima. Under these disadvantages, exploration of the country by outsiders has been very limited, and that only in search of particularly rich resources. It was natural that the hope of finding important mineral resources should be the first incentive to foreigners to visit these remote districts, and the first definite knowledge of the extent of the rubber forests of southeastern Peru may be said to have been gained by mining engineers. Likewise it was mining companies, with large capital, which first established relations with the Peruvian government for the development of the region referred to.

The government, it may be said, has been liberal and farsighted, as a rule, recognizing that as neither the people nor the national treasury had the means for developing the rich native resources, it must be made to the interest of foreign capitalists to devote their energies to the opening of this remote virgin field. In consequence the resources of the country have been studied, enterprises have been established, and the oldtime difficulties of transportation and communication are being overcome. What risks man will take in the hope of discovering gold, all know. But in these days of high priced rubber, the search

for this very necessary commodity is scarcely less enthusiastic, and hence, after mining the precious metals of Peru, rubber gathering is likely to prove the most important interest.

Already no little pioneer work has been done in connection with rubber in southeastern Peru, by a number of people, for the most part working on a small scale and without coöperation. This era, however, is passing; indeed, some considerable rubber enterprises are under way, the consolidation of three of which can now be announced.

The new company, to be known as The Inca Rubber Trading Co., proposes to take over the assets of the Inca Rubber Co., The Carabaya Rubber and Navigation Co., and the Inca Mining Co., except the mines of the last named company.

The Inca Rubber Co. and the Inca Mining Co. hold from the Peruvian government large concessions of lands, in consideration of which they have built roads extensively in a region which before had scarcely forest trails. They have built a fine road some 270 miles in length, from Tirapata, Peru, over the Andes mountains and down to the navigable waters of the great rubber producing territory. This road, which has been under construction for nine years, is a magnificent piece of work, and opens up a country said already to produce an important amount of rubber, most of which now goes over the falls of the Madeira to San Antonio, and then by river steamers to Manáos and Pará—a costly, dangerous, and tedious journey.

It should be noted here that the navigable rivers above referred to are not navigable to seaboard, but only converge into the badly obstructed Madeira. The

purpose of the new Inca company will be to deflect this rubber—and such other rubber as may be gathered within their sphere of influence—to their own route and lay it down in



RUBBER TREE (HEVEA).

[Two or three tin cups for catching the latex may be seen on the trunk.]



ONE OF THE INCA RUBBER CAMPS.



SMOKING RUBBER IN THE SAME CAMP.



"THE OROYA," INAMBARÍ RIVER
A station of the Inca Mining Co

New York in six weeks' time as against six months' by the other route, and at very much less cost.

The Carabaya company, already named, and which is embraced in the new enterprise, is now considering a road from Ollachea, about 118 miles in length, opening up a similar territory the completion of which would entitle it to receive from the government a grant of rubber lands estimated to be about 900,000 acres. The concession of the old Inca companies covers about 1,000,000 acres. By means of these roads the company plans to control some 2000 miles of navigable streams, in a territory in which are upwards of 8000 natives, who are India-rubber gatherers, or can be made so, residing with their families. The concessions lie in the uplands, where the climate is said to be healthy, one where proper oversight to laborers can be given by white men.

The new company plans to handle, as a minimum, 2,000,000 pounds of rubber a year, coming partly from their own gatherers and partly from the districts mentioned.

The flotation of the company is in the hands of H. W. Bennett & Co., of New York. The authorized capitalization is \$5,000,000 in twenty year 6 per cent. sinking fund gold bonds and \$5,000,000 capital stock. The first issue will be \$1,000,000 in gold bonds to be sold at par, with \$4,000,000 gold bonds in the treasury. The organization of the company so far as officers go is not quite complete. At present the list is: H. W. Bennett, first vice president; A. B. Luther, second vice president and general manager; H. D. Selleck, secretary. The directors are H. W. Bennett, E. B. Luther, H. M. Sadler, E. H. Gary, C. P. Collins, W. W. Bell, Juan Pardo, H. D. Selleck, and Chester W. Brown. Juan Pardo, by the way, is a brother of the president of Peru, and a member of the Peruvian house of representatives. Mr. H. W. Bennett has successfully engineered some large deals, the only one touching the rubber business, however, being the Tehuantepec Rubber Culture Co. Mr. A. B. Luther is an expert on tropical agriculture and has just returned from Peru, where he carefully inspected the country in which the concessions lie. Mr. H. M. Sadler was at one time prominent in the United States Rubber Co. as assistant general manager.

THE EDITOR'S BOOK TABLE.

MANUELS RORET—NOUVEAU. MANUEL COMPLET DU FABRICANT d'Objets en Caoutchouc, Gutta percha, Factice, Toile et Taffetas Cirés; suivi de la perméabilisation des Toiles, Papiers, Cuir, etc. Par MAIGNE, Nouvel. Edition par Georges Petit. Paris. Encyclopédie—Roret, L. Mulo, 1000. Paper. 2 vols. 32mo. Pp. viii + 454; ii + 324. Price, 12 francs.]

THOSE who are familiar with Maigne's two volumes on Caoutchouc, in the Encyclopédie-Roret, will be pleased by the appearance of this revised edition up to date, and enlarged nearly a third by Georges Petit, a civil engineer.

Maigne's work came out in 1880, and was welcomed by the trade, for the sake of the usual Frankish clearness which marked its style. But in the rapid development of the trade the book became, in many respects, obsolete or inadequate. The most notable development, of course, has been the pneumatic tire, now become the most sensational feature, perhaps, of the whole rubber industry. M. Petit devotes a whole chapter to "pneus," and otherwise attempts to repair the ravages made by time in the original book. He claims with faint praise the whole category of synthetic or substitute rubbers, despite the many possible uses for these, and as if rubber manufacturers did not know what they wanted.

Another development since Maigne's 1880 edition has been the forging ahead of Africa as a great producer of rubber.

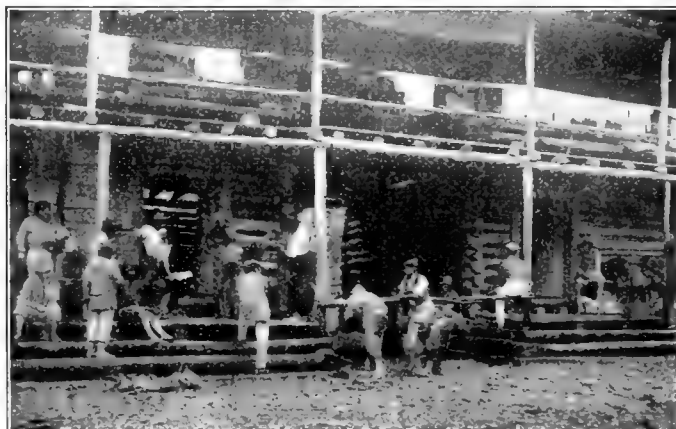
Madagascar and most of the coast regions at that time sent rubber to market, but the Congo Free State and the great African inland were only mentioned as possible producers in 1880. African rubbers, moreover, have been so extremely variable in quality and general properties, as against the relative homogeneity and constant excellence of South American rubber, that men have been led more and more to study the nature and origin



BRIDGE BUILT WITH RAILROAD RAILS.

[Fifteen miles from Tirapata across the Asillo river: tested to 25 tons; length 200 feet.]

of the raw material, in order that all the various sorts may be utilized to the utmost extent. Accordingly, whereas Maigne gave 153 pages to the geographical and vegetable sources of rubber, its gathering and coagulation, and the first stages of factory practice; M. Petit devotes 269 pages to these matters, and to much better effect.



WEIGHING CAUCHO AT LA UNION.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

TIME was when the cut sheet manufacturers of England, notably the Manchester firms of Macintosh and Moseley, supplied the requirements not only of England but of the continent. Of late years, however, several continental firms have taken up this branch, more particularly, however, in the thicker counts. The number of sheets that go to make up an inch depends upon the perfection of the machinery and it is understood that the engineers' drawings relative to the machinery made for the Manchester firms mentioned were not to be used for the supply of machinery to possible competitors. Some ten years ago Macintosh & Co. had the reputation of cutting the thinnest sheets, 125 of which went to an inch, but I cannot say now which firm is cutting the finest or whether any greater degree of tenuity has been attained. What I wanted chiefly, however, to draw attention to is the fact that a prominent Brussels rubber manufacturing firm who wished to buy cut sheet from England thought themselves somewhat badly treated in the preliminary negotiations for business and decided to make for themselves a year or two ago. This they are now doing on a large scale, and what is more they are selling their product in England in competition with the home firms. Probably the case is not important enough to excite the fiscal reformer, else at a moment like this with election literature on all sides the would-be reformers might point to another example indicating the ultimate extinction of our industries.

THIS new concern has already been referred to as having its location in the factory of the defunct Hyde Rubber Works Co., Limited. The promoters of the new company are Messrs. Mandleberg, the well known waterproofing firm of Pendleton, Manchester. The capital is £33,000, and although no public issue is being made, the scheme for the private issue of the capital is as follows: Messrs. Mandleberg take 3000 deferred shares, which rank equally for dividend with the 30,000 other ordinary shares, when the latter have received 6 per cent. I don't know how far the 30,000 shares have been taken up by the public, but to some intending subscribers the scheme appears too much in favor of the promoters to suggest it as a very profitable investment, which opinion as given to me I pass in for what it is worth.

THIS firm have now removed from London to more commodious and convenient premises at River Bank wharf, Charlton, London, S. E., adjoining the cable works of Messrs. Johnson & Phillips. The buildings are of the wood lined corrugated iron order and are extensive enough to allow of the treatment and sorting of various kinds of waste rubber to be carried out with due regard to order and cleanliness. I mention this point because the works form a good contrast to others I have visited where dirt and chaos were more conspicuous than cleanliness and order. Activity in this branch of the rubber trade is very apparent at the present time and the number of those engaged both as dealers in and collectors of scrap rubber has largely increased of

late, to such an extent indeed that complaints are made that the profits to be made are on a sadly lower scale than ruled a year or two ago. At the same time the business done is much greater so that those with sufficient capital can face the future with equanimity. In Dr. Schumacher the company under notice have a manager with expert knowledge of the rubber trade and doubtless we shall soon see that many forms of waste rubber hitherto found unsalable will take their place among those which can be profitably treated for re-sale.

THE paper read by Dr. Caspari in December before the London section of the Society of Chemical Industry and entitled "Notes on Gutta-percha and Balata" covered ground which has no great interest for the practical man, and a few words of reference here will suffice. It dealt largely with the nitro and halogen compounds which readers of Weber's and Harries's papers are familiar with in the case of rubber. In some ways the ensuing discussion was more interesting than the paper. The usual stress was laid by one speaker on the great benefits to be derived from synthetic rubber when it is made on a commercial scale, but surely the plantations in progress for the supply of the genuine article will do all that is required without our having recourse to some chemical monstrosity. The presence and remarks of D. J. Spiller were interesting, his contributions to our knowledge of the oxidation of India-rubber and Gutta-percha dating from 50 years ago. Dr. Lewkowitsch, the eminent authority on oils and fats, has evidently been studying the recent scientific contributions to the chemistry of rubber. He remarked that those who had gone over the same ground as Weber had failed to corroborate this author's figures and that before these various chemical compounds of rubber and gutta-percha could be considered as established the various laborers in the field ought to get concordant results. Certainly if the existing apathy of the practical man towards these chemical researches requires any further justification it is to be found in the substance of Dr. Lewkowitsch's remarks.

AFTER a brief interval Mr. C. J. Beaver, of Messrs. W. T. Glover & Co., has again contributed an interesting paper on the subject of insulated cables. His audience this time was the Electrical Contractors' Association. The main theme of the paper was the causes of breakdowns and the underlying moral was the necessity of buying from a reliable manufacturer who, it would appear, is not to be found outside the ranks of the Cable Makers' Association. Only a few crumbs of comfort were thrown to those practical men who want ready tests to enable them to judge of the value of samples of cable and emphasis was laid on the importance of chemical analysis as the final tribunal. With this I quite agree if it is carried out by those who are familiar with their subject and not by the head of the local technical school or the borough analyst. Rightly enough in my opinion the heat tests for rubber came in for some criticism, and the reference to the importance of good tinning of the copper wire was not

CUT SHEET
FROM ABROADTHE
SCIENTIFIC
SIDETHE UNITY
RUBBER CO.
LIMITED.MESSRS. H. SCHUMACHER
& CO.

at all superfluous. Though apparently a simple operation and regular in its results, this tinning needs careful attention if the coating is to be of sufficient thickness to really prevent reaction between the copper and the sulphur. It seems probable that it is not a simple case of coating one metal with another but that definite alloys are formed. ==The partial electrification of the London and Brighton railway has led to some discussion in the press in the matter of the contracts for the equipment being given to the General Electrical Co. (Allgemeine Elektrizitäts Gesellschaft) of Berlin. It has been explained, however, that a good deal of the work will be carried out at the Rugby works of the British Thomson-Houston Co. The facts briefly stated are that the system of electrification to be followed is the single phase high pressure, and that this particular class of car equipment has not yet received the attention of British manufacturers. In contradistinction to the existing electrified lines on the Lancashire and Yorkshire and North Eastern railways the Brighton line is to have an overhead current probably at from 2000 to 5000 volts with transformers on the cars. The lines mentioned above do not exceed 600 volts, but higher pressures find favor in German practice.

WITH regard to the issue of the prospectus of this concern on December 11, perhaps the most noteworthy fact is that it had a half page advertisement in a prominent financial daily (*Financial Times*), no comment being made in the editorial columns. The following day the paper contained a long leading article criticizing the company and the manner of its promotion in rather a strong tone. A day or two later the same paper published a skit prospectus from an anonymous correspondent entitled "The Siberian Lubber Co. Unlimited," which was really amusing. But the point for the ordinary reader to decide is whether the prospectus or the criticism is most entitled to favorable consideration; probably the statements in both may be considered as biased. Of course Liberian rubber is not by any means a new tool for the company promoter to handle; my memories of it go back to 1885, when Mr. C. W. Meiter and others of London got a monopoly of rubber gathering in the country. Probably the best thing that can be emphasized about the new company is the strength of the directorate, including as it does such men as Sir West Ridgway, Sir Harry Johnston, Sir Gilbert Parker, M. P., and Sir Raymond West. The fact that the Dunlop Rubber Co. have contracted to buy all the output may cause a little nervous tension among purchasers of their fine Pará motor tires, but it must be remembered that the Dunlop company have now a large business in general rubber manufacturing and that Africans must form a large part of their raw product. The contemporary referred to above comments especially on the promotion profits, which leave only £50,000 working capital out of the £220,000 being paid for the property. It is noteworthy that the Consolidated Rubber Syndicate which acts as the selling agent between the Monrovia Rubber Co. and the new company was only registered on December 5, 1905, the directorates of all three companies being largely identical. Apart, however, from the promoting side of the business, the main point for the investor is whether the rubber is there and whether it can be gathered regularly at a low cost. The directors seem to be confident on these points.

I MAY mention that in addition to the general mechanical

rubber goods which this Manchester firm has been manufacturing in the past, a specialty is now being made of Balata belting which, it is claimed, is quite equal to anything of the sort made elsewhere. It is supplied in two qualities—the Ianco and No. 1. The firm will probably find plenty of competition in their market as, besides other British makers, there are several on the continent. These may rest assured, however, that the language used by the Irwell company in describing their goods will be warranted by the results obtained in practice, if one may judge from what has occurred in other cases.

THE recently issued report of the large concern generally known under this abbreviated title is much more satisfactory than was the case a year ago, and the company's shares have now risen again to the figure at which they have been quoted for so many years. In the comments which I have seen on the report the only discordant note struck is with reference to the silence observed by the directors as to the "new business" which has absorbed £100,000 capital. Speculation is rife as to what this new business is, but the directorate seem to think that publicity would do them harm, as their attitude has been to treat it as a trade secret. There certainly is a good deal to be said in not letting your competitors know exactly what you are doing, especially if the particular business would suffer by competition. Further, if the thing proves to be non-successful those responsible for the project cannot well be called over the coals, as the loss can be put down in the general profit and loss account without being particularized.

THE remarks in the quality of plantation rubber in the December issue of this Journal are of great interest.

THEIR trend is to show that it has not yet been shown that the new rubber is equal to that from primeval forests, much less superior to it. It is important that the actual facts should be emphasized because now that the company promoter has so largely identified himself with rubber, loose statements are bound to parade themselves as indisputable facts. It is said that the new rubber is not quite suitable for elastic thread, and it is quite easy to imagine that this is so. In this connection there seems no inducement for the manufacturer to test its actual value for the purpose. Elastic thread making is in the hands of but a few firms and the risks attaching to any bad work are so great that it is quite natural that any change of material should only be adopted after careful consideration and must be attended with monetary advantages. It is suggested that an alteration in the vulcanization might prove the new rubber to be quite equal to Brazilian Pará. So it might, but as the prices of the two correspond how is the manufacturer to gain for the trouble and attendant risk in altering his customary and satisfactory procedure? The future of plantation Pará rubber does not depend on its being proved the best in the market for every possible purpose. The prospects are quite bright enough without going so far as that. It is reported that a large London produce firm has offered to buy the total output of Pará rubber from more than one plantation for 10 years at a fixed price of 5 shillings per pound. But planters should not overlook the fact that in South America there are still vast virgin regions to be tapped.

THE IRWELL AND
EASTERN RUBBER CO.

THE
SILVERTOWN
REPORT.

PLANTATION
RUBBER

RUBBER PROSPECTS IN LIBERIA.

THE flotation in London of a large company for exploiting rubber in Liberia, reported in these pages last month [page 124], has served to attract renewed attention to a region long known to contain rubber, though to what extent was never suspected until of late. The fact is that Liberia, though for many years recognized nominally as having a civilized government, in reality is to-day one of the least known regions of Africa. The settlement at Monrovia, in 1821, under the auspices of the United States, of a number of freed slaves, and their subsequent founding of a republic was suggested by and modelled after the creation of the colony of Sierra Leone, immediately to the north, under British philanthropic influences, for the intended benefit of former black slaves in British dominions.

Liberia is really administered by the English speaking blacks of American origin—who do not exceed 15,000 in number—only along the coast line of 350 miles, and over a belt 35 to 40 miles wide, extending inland. The remainder of its area of 45,000 square miles is covered for the most part by forests of such density as are scarcely to be found elsewhere. Herein dwell, it is estimated, more than 2,000,000 natives—more or less savage, almost nude, and in places addicted to cannibalism—with whom the ruling caste only of late have begun to cultivate friendly relations.

Sir Harry Johnston, K. C. M. G., K. C. B., mentioned in the last INDIA RUBBER WORLD as having made a favorable report on the rubber resources of Liberia, has long been a recognized authority on Central Africa. Within the past two years he has spent some time in Liberia, where his researches were supplemented by those of Mr. Alexander Whyte, a student of African botany for a half century. As a result of their combined observations, Sir Harry recently read a paper on "Liberia" before the Royal Geographical Society (London), * from which are extracted the following details bearing upon India-rubber:

The wealth of this forest in India-rubber producing trees, vines, and bushes is without parallel in any other part of Africa, unless it be in one or two small areas of the Congo basin. Counting the four rubber producing figs, there appear to be at least twenty-two trees, plants, or vines which produce salable rubber. These species include the well known and widespread *Landolphia Oaariensis* and the magnificent *Funtumia elastica*, the rubber tree once so abundant in Lagos colony. The *Funtumia elastica* is stated to grow over 200 feet in height. It closely resembles in appearance the allied species *Funtumia Africana*, but there is a very considerable difference in the price of the rubber yielded by the one and the other—the rubber derived from *Funtumia Africana* may, perhaps, be sold for 18 pence [36½ cents] a pound, but the *elastica* ranges in value from 3 to 4 shillings [73 to 97½ cents]. The distinctive features of the leaves, flowers, and fruit, which enable the observer to decide whether he is tapping the valuable or the valueless *Funtumia*, will shortly be illustrated in my book on Liberia. The range of the *Funtumia elastica* appears to extend from the middle of Liberia eastwards as far as western Uganda. It is found in a portion of the Bahr-al-Ghazal region and in the northern part of the Congo Free State. The *Funtumia Africana* is more strictly west African in its range, from Portuguese Guinea to the Congo basin. In the western regions of the Congo Free

State and in Angola (that *L. africana* is found which, like *Funtumia Africana*, is not of much value to the rubber trade.

The new company referred to, and in which Sir Harry Johnston has become a director, has obtained a monopolistic concession from the Liberian government, and the hope exists that, for a number of years at least, the hitherto unsuspected wealth of rubber will afford a yield comparable with that of Lagos at one time. An interesting fact noted in Sir Harry's paper is that Liberia appears less unhealthy for Europeans than Sierra Leone, the Ivory Coast, the Gold Coast, or Lagos. The remarkable absence of mosquitoes is noted, and the less marked prevalence of malarial fevers. Mr. Whyte, by the way, has seriously suggested the spreading of Liberian "anti-mosquito soil" over certain other parts of the earth as a beneficial measure.

A BIT OF BRITISH SARCASM.

A SKIT advertisement which appears in the *Financial Times* (London), and which is commented on elsewhere in these pages, ran as follows:

This Prospectus has not been filed with the Registrar of Joint Stock Companies, because he didn't seem to like it.

THE
SIBERIAN RUBBER COMPANY,
UNLIMITED.

Incorporated under Seal of Success
CAPITAL £1,000,000
Divided into a few Shares of the Largest Possible Amount.

DIRECTORS.
*Sir M. J. GASEBAGS (Director of The Tyre and Sid n Company)
*Sir BOMPAS BOUNDER A.O.B.
*THE BLACK MACINTOSH OF THAT ILK
*Sir SIDESLIP FLATCATCHER, I.S.D.
*Will leave the Board as soon as possible after allotment.

BANKERS.
The Company will do its own.
SOLICITORS.
RUBIN BOSHWEIL & HARD.
BROKERS.
These will be kept out as long as possible.

AGENTS.
MAKEABIT QUICKLY & QUIT.
SECRETARY (very much pro tem.),
VON DOVA JOKO.
OFFICES.
SQUEEDGEE COURT.
N.B.—Please wipe your feet on the Rubber Mat; it's all the Rubber we have.

PROSPECTUS.

This Company has been formed to exploit the rubber industries of Siberia. Siberia contains over four million square miles, thousands of which are covered with dense forests, so it is obvious that large quantities of rubber will be found there if it is only looked for long enough.

The Company will take over and keep as long as it can all the cash it can possibly collect.

The first payments which will be made are the Directors' fees. These are very large, and are a first charge on the Company's assets, and are guaranteed by the Articles of Association.

The Company is acquiring and has entered into contracts to purchase all the interests, rights and titles of the Maldivian Golosh Company, the Brandypawnee Hot-water Bottle Company, the Baby's Comforter and Windsucker Company, all of which, being most flourishing concerns, are naturally anxious to dispose of their businesses.

The Company will acquire from these concerns all their stocks

* Reported in the *Geographical Journal*. Vol. XXVI (1905). Pp. 131-2.

of raw, boiled, chewed and stamped rubber, and will get rid of them without delay to the highest bidder.

The Tyre and Sidon Company, of which Sir M. T. Gasbags is a director, has agreed to buy all the rubber the Company produces, and as much more as it may require, from other people at market rates, with 5 per cent. discount off for cash, and other deductions, commissions, brokerages, according to the customs of the trade. This is a most important asset and should be carefully noted.

Mr. Blakanwite, the eminent Dipsophilist, reports as follows:—"I have walked round the forests of Siberia for years, and have never been able to get into them owing to the toughness of the rubber bands. The waterways are, however, clear, and, if properly diluted, are very palatable. There are many varieties of rubber to be found in these forests if you look long enough. The following list gives the names of a few which occur to me on the spur of the moment: Heelia Bootia, Inkerasa, Goloshia Femina, Pensilmarkia Rubouta, Chewinguma, Jawbraka. There are also forty varieties which can be distinctly seen through the bottom of an ordinary tumbler, and if more tumblers are taken the number is often doubled.—A. BLAKANWITE."

Sir M. T. Gasbags writes:—"The population of Siberia is very large. If the Company will immediately plant 3,000 acres of land with a thousand trees to the acre, it would have, five minutes after the last tree was planted, 3,000,000 rubber trees."

All the Directors are shareholders in the Companies that are being acquired, and will exchange their shares for cash as soon as it comes in.

Applications for shares should be made as soon as possible, to enable the Directors to proceed to the allotment of their interests.

Do not write legibly. We want your cash, not your name.

No money will be returned, and all are invited to come in.

No reasonable offer refused.

THE MEXICAN "YELLOW TREE."

FOR the past year or two reports have come from Mexico of a tree lately discovered to be a rubber producer, and said to occur through a considerable upland region. Some small samples of gum said to have been obtained from this tree were sent from time to time to THE INDIA RUBBER WORLD office, but with little definite information regarding its source. Recently, however, there have been received a large sealed can of the latex and about 20 pounds of the coagulated gum. The latter in its physical appearance was much like ordinary resin that had been treated with resin oil. These samples were put into the hands of various experts for tests, the results of which appear below.

The first, from a rubber manufacturer and chemist is as follows:

This rubber can be used on the same lines as Pontianak gum. There is absolutely no comparison in regard to the higher grades of rubber such as Africans or even Accra flake. We have been able to obtain a very soft and elastic substance after coagulating and we have found that the rubber would remain in this state about 24 hours, and then become very hard and of no practical use as a rubber. We have found that it will not vulcanize by itself, but have found that it will vulcanize, that is to say, it will give us a product mixed with other rubbers and compounds which is marketable; the same of course being true with Pontianak gum. We have not been able as yet to use the product in the manufacture of rubber goods as the cost of producing is so much more than Pontianak and the results obtained but very little better.

Another report, from one who at first believed that the gum might have commercial value, is more comprehensive, and the investigator tried very hard to produce something of value out of the resin-like mass. This report runs:



"PALO AMARILLO" (YELLOW TREE).

[A Mexican tree designated as *Euphorbia elastica*. Now being studied as a possible producer of rubber.]

About one year ago we received a letter from a promoter of the sale of *Euphorbia elastica* trees in Mexico in which he stated that his chemist could produce from this gum, commonly known as "Potato gum," a rubber worth \$1 per pound and promising samples. The samples never materialized.

On February 20, 1905, I received from another source a 5 gallon can of the latex *Euphorbia elastica* and some 20 pounds of the gum with the request that I would see what could be done with it in the way of making it commercially valuable. I accordingly conducted a series of experiments covering all the ground that I could regard as in the slightest degree as promising any good result from a chemical point of view and having the assistance in this work of a master in chemistry and an expert rubber manufacturer.

You will appreciate the rather unusual advantage we had in having the latex itself to work on. You will also appreciate the persistency with which I clung to the hope of finding something really good and specially useful in this gum when I state that I devoted a month to the investigation and carried it through a carefully considered series of submission to chemical reagents extending through 40 distinct experiments.

I take pleasure in reporting, at your request, the essential results of the investigation, briefly as follows:

1. Latex coagulates readily and completely by exposure to air, forming a gum fairly solid but very sticky.
2. No evidence of any tendency to fermentation of the latex, no matter how long the exposure to air. I call your special attention to this point of no fermentation for the reason that the latex of any true rubber is so far as I am aware particularly liable to fermentation proceeding rapidly to putrescence. In this freedom from ferments I find the first evidence that this gum is not a true rubber.
3. Latex contains about 60 per cent. water; that is, it dries down in open air to 40 per cent. solid gum.
4. The latex subjected to the solvent action of Carbon tetrachloride gives a remarkable reaction by separating in a test tube by gravity into five distinct strata, showing a remarkably complex composition.

5. I have preserved some of the latex exposed to the air in an open vessel for a year with no sign of putrescence or chemical change further than that produced by evaporation of some 60 per cent. of water and residue of gum.

6. I have on hand 40 samples representing the results of that number of experiments preserved for one year. Wherever the air has penetrated into these samples they have turned to a hard and brittle resin.

7. In all my experiments I have never found any decisive evidence that this latex is a rubber bearing substance.

Without in the least presuming to be able to render a conclusive verdict on this product I am still free to say that I now regard it as properly not a rubber but a resin.

Perhaps the best characterization of the value of the gum, or be it rather severe, and partly in fun, came from the head of a large rubber manufacturing concern, who is very alert in taking hold of new products. His report was: "As far as I can see, this gum is worth about 4 cents less than Pontianak." As Pontianak is to-day selling for about 3½ cents per pound, the gum would seem to be valued at minus one-half cent.

RUBBER PLANTING IN THE CONGO.

DETAILS of the planting of India rubber in the Congo Free State with a view to offsetting the decline of the production from natural sources have appeared in THE INDIA RUBBER WORLD from time to time, with the expression of opinion that the results were less promising than in the case of rubber planting in some other countries, for the reason that (1) the suitability of rubber *lianes* or creepers for cultivation remains to be proved, and (2) the conditions of planting in general in the Congo state have not been developed to a stage comparable with what prevails in Ceylon or Mexico. Bearing upon this point Mr. George Bemelmans, of Ceylon, writes to the *Tropical Agriculturist*:

The rubber vines are planted in the forest cleared of jungle (underwood) at the rate of at least 2000 plants to the hectare (about 2½ acres). Many die out, and up to date no results have been obtained, although, as I stated above, the first vine rubbers were planted in 1899. Further, nothing proves that those creepers will be successful, as they are only a finger thick—notwithstanding their pretty good length. On the other hand, we must bear in

mind that the nature of the rubber vines will never allow of the tapping methods suitable for the *Hevea*. Consequently Ceylon has still bright prospects before her!

We do not know who this writer may be or his means of being informed, but no information is forthcoming that would point to any other view of the matter. It is true that of late more attention is being given to the planting of *Funtumia* (*Kikxia*) *elastica*, a rubber tree which has been proved in German colonies to be well suited for cultivation, but an important point is whether the agents of trading companies who are planting rubber, not of their own volition but merely to comply with a state regulation, are likely to remain on the ground—after the native rubber resources have been exhausted—and give the newly planted trees the attention necessary for their development and ultimate productiveness. The condition in the Congo region as relates to the supply of native rubber is indicated by the fact that the imports from there at Antwerp have been declining so rapidly of late, although there is no indication of decreased activity on the part of the rubber trading companies in the collection of rubber. The Antwerp imports of Congo rubbers reached 5,417,456 pounds in 1901, and amounted in 1905 only to 4,442,607 pounds.

PLANTATION "RUBIO."

PLANTATION "Rubio," situated on one of the affluents of the Coatzacoalcos river in Mexico, is to-day probably the largest area of planted *Castilloa elastica* in the world, there being more than 2300 acres planted, containing approximately 2,750,000 trees. The illustrations on this page show two views, one of 1902 planting, as what is known as Camp Ojo de Agua. Here the trees are about 18 feet high on an average, and about 15 inches in circumference, 5 feet from the ground. The second picture shows a portion of the same territory, the planting being in the year following. The trees, which in the picture look like bushes, are really about 15 feet high and very thrifty. The foreground of the picture shows cleared land prepared for corn planting. Plantation "Rubio" is the property of The Tehuantepec Rubber Culture Co. (New York), a name many of the readers of this Journal are familiar with. This plantation is worthy of remark in being rubber alone, no coffee, cattle, gold mines, side crops or side issues being appended.



PLANTATION "RUBIO"
(Camp Ojo de Agua, Planting of 1902.)



PLANTATION "RUBIO"
(Planting of 1903, showing the corn field.)

SOME NEW EXPERIMENTAL CALENDERS.

THE illustrations on this page show new types of calenders designed for experimental rubber work and also for practical use in smaller factories. One of the machines, for building up into a slab pure gum or compounded stock, would seem to be fairly important, as much of this work is done, and it is necessary to lay up the plys in such a way that they will be absolutely free from air. This slab building calender is fitted with a drum covered with soft vulcan-

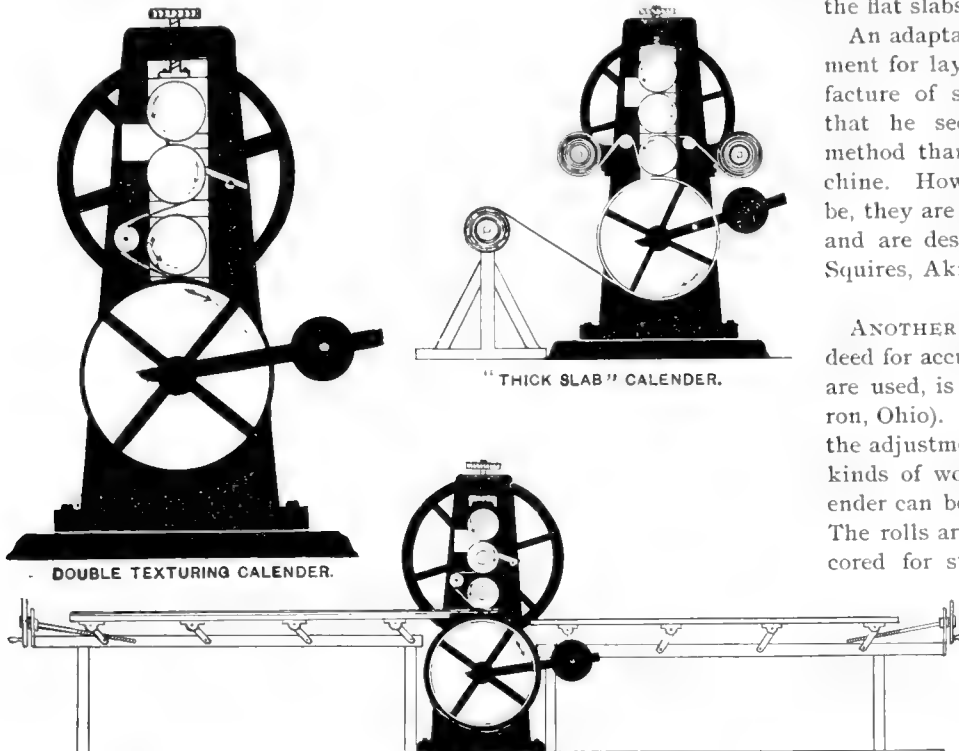
which considerable pressure can be exerted. In this process the designer advises the cooling of the stock on the plate for twenty-four hours before removing. This is, in the opinion of the writer, a distinct disadvantage where much work is to be done. Nor is it apparent that engraved flat surfaces, where the plates must be duplicated many times, are superior to engraved rolls when one figures economy of product. This type of calender is 6×14 inches, the pressure drum being 2 feet in diameter and placed directly under the bottom roll of the calender. A feature of it is the adjustable table on which the flat slabs are laid up.

An adaptation of this calender is its arrangement for laying up plys of stock for the manufacture of solid tires, and the designer claims that he secures much better results by this method than can be got from the tubing machine. However practical these machines may be, they are certainly interesting and ingenious, and are designed and built by Mr. Arthur C. Squires, Akron, Ohio.

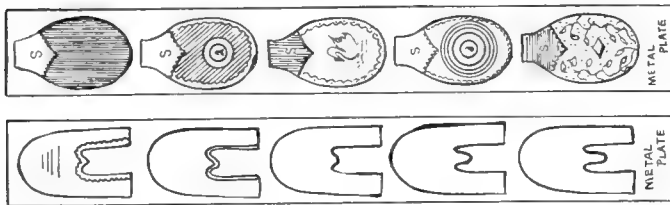
* * *

ANOTHER experimental calender, and one indeed for accurate work where only small batches are used, is manufactured by A. Adamson (Akron, Ohio). The machine is excellently finished, the adjustment is absolutely accurate, and many kinds of work which can be done on a large calender can be done even better on this machine. The rolls are 6×14 inches, of chilled cast iron, cored for steam and water. The rolls run in bronze bearings, and are fitted with cast steel cut gears. The rolls of the mill are of the same size and are identical with the calender rolls. The entire machine is placed on one bed plate, and is so arranged that either mill or calender

may be run separately or together. The machine is in no way a toy, but is a perfect working practical machine in every detail.



EXPERIMENTAL CALENDER FOR SLABbing AND ENGRAVING.

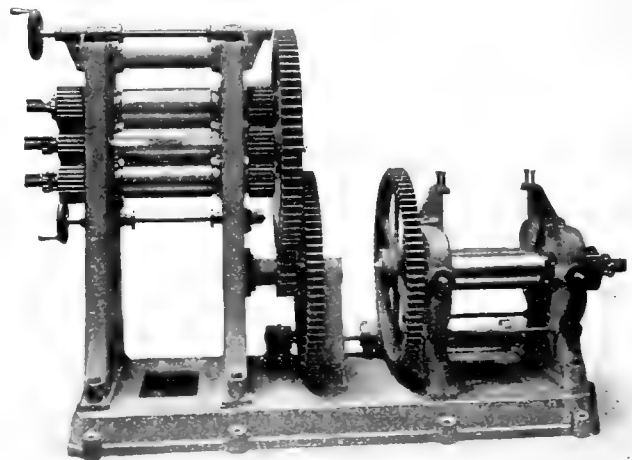


ENGRAVED PLATES USED UNDER SLABbing CALENDER.

ized India-rubber, one half inch thick, the face being shellacked. By its use a slab can be built up to the thickness of 3 inches, the width being 22 inches and the length 6 feet. The designer expects it to be used for such work as heels, soles, valves, and articles are died out and made fit the mold with considerable exactness.

The double texturing calender, on the other hand, is not intended for other than experimental work. The designer, however, believes that he has brought out something that will result in a new method of double texturing on full sized three roll calenders.

The third process demonstrated by an experimental machine is one for engraving and calendering stock flat, for water bottles, shoe uppers, soling, etc. This is done by running two ply compounded stock on long flat engraved metal plates, which are passed under the lower roll and over a soft rubber covered drum, the latter fitted with weights by the use of



ADAMSON'S EXPERIMENTAL CALENDER.

"NOTHING LIKE LEATHER (?)"—The heavy calfskin knapsack formerly worn by the German soldier has been condemned by the War office and will be superseded by a light canvas article rubber coated. Another triumph for India-rubber!

CRUDE AND RECLAIMED RUBBERS.

WHAT measure of relief may be afforded from the unceasing stringency of prices for crude rubber by the conditions governing the market for reclaimed rubber is a question of considerable concern to manufacturers in general, whose resources have already been taxed, in the substitution wherever possible of reclaimed for crude, during the last two years or more that the soaring tendency of prices for the latter has tended to restrict its consumption. While the growth of both crude and reclaimed rubber has progressed hand in hand with the steady extension of the mechanical rubber goods production during recent years, the gain in consumption of reclaimed has been decidedly more than proportionate to that of crude.

Manufacturers have realized that the possibilities of a wider use for reclaimed rubber in their products offered the only solution of the problem presented, not only by the increase of the cost of crude, but also by the advance in duck, chemicals, etc. The finished articles could not be marketed at an advance commensurate with the increased cost of the raw materials, and unless the process of manufacture could be cheapened profits would be practically eliminated in many lines of goods. Meanwhile the reclaimers have resorted to every expedient to enhance the availability of their product, and with the broader fields thus established for its use, the improvement in quality has shown a consistent gain. Some rubber factories make their own reclaimed, and were perhaps in a position to realize more readily the practical application of such improvement to their various requirements than those factories dependent upon outside sources of supply.

Among the manufactured materials, certain molded goods have been found most susceptible to the addition of more recovered rubber. In lower grades of hose, belting, packings, and other supplies for mechanical needs there has been a substantial increase in reclaimed in connection with crude rubber. In the cheap grades of sheet packing the high price of crude rubber and the low selling value of the finished product have combined to render the use of anything but reclaimed partially out of the question. With the steady gain in the consumption of reclaimed rubber, not only with the growth of established industries but with the creation of new lines and wider applications for rubber in general, the effect of this condition upon values for crude cannot be doubted. But for the possibilities of reclaimed it has been stated that prices for raw rubber might before now have touched a prohibitive basis.

Old boots and shoes in the past have furnished the great proportion of scrap for reclaimed, the returns from this source being estimated, at one time, at 90 per cent. of all scrap. But nowadays many other forms of waste rubber are being utilized to advantage by the reclaimers, including the various grades of tire stock, the volume of which is becoming enormous, and from which excellent results are being attained under some processes of reclaiming. If any serious check should be encountered in the supply of old shoes, manufacturers believe that the force of the situation would stimulate other sources of supply to help make up for any deficiency in reclaimed. The occasion is regarded as favorable for an increasing application of reclaimed, and there can be no doubt as to its continued influence in checking the advance in crude rubber prices.

To sum up, the continual rise in the price of raw rubber has been an incentive to manufacturers to experiment more fully with reclaimed, by reason of which it is now utilized to advantage in places for which it was formerly thought unfitted. At the same time, there has been a gradual improvement in reclaimed rubbers, which has further tended to their introduction. As a result, the pressure of the demand for raw rubber has been moderated, with the result of keeping down the price somewhat.

One prominent reclaimer, in view of these facts, predicts that fine Pará rubber will be selling at \$1.10 within a year, but he always was an optimist. He is convinced, by the way, that even if crude prices should drop materially the newer uses of reclaimed which have developed recently would continue, on account of the satisfaction of manufacturers with the results. It may be pointed out that the present open winter in the United States, indicating a reduced sale of rubber footwear, may be the cause of a lessened collection of discarded boots and shoes next spring, after the snow disappears.

A FRENCH DOCTOR ON RUBBER FOOTWEAR.

IN a report on "Pneumonia and Colds," which the French Professor Dr. Bruet recently made before an audience consisting of scientists and students in the Paris School of Medicine, he closed with a few words on the rubber shoe question. A translation of the remarks by the famous health specialist is derived from the *Gummi-Zeitung*:

"And now, my honored listeners, I shall speak upon a subject which absolutely demands investigation, however trivial it may seem to many—I mean that the cause of so much taking cold, especially in the case of debilitated and nervous persons, and particularly in raw, unsettled weather, is generally the result of wearing light, flimsy footwear. When one considers how easily a susceptible, delicate constitution is affected by any change in temperature on the feet, and how quickly the resulting uneasiness spreads through the whole body, he can better appreciate why doctors advise their patients, and delicate people generally, to be very prudent in the choice of their footwear. In wet weather it is only too easy for persons so predisposed to contract severe colds, with the consequences of which, gentlemen, we physicians are thoroughly familiar. The public generally should be very careful to keep their feet warm in bad weather, and, when possible, to wear overshoes or rubber shoes, of which there is far too little use, particularly in the large cities, where one's health is most liable to attack, with the accompanying expense and loss of time."

An interesting incident is reported to the Diamond Rubber Co. (Akron, Ohio), by Dr. A. C. Helm, an automobilist of Milwaukee. After one of his "Diamond" tires had been used several months he noticed that it was showing signs of a puncture from the inside, and that at a certain place the surface was being pressed outwards. Looking inside he found between the air tube and the cover a lever such as is used to remove and put on tires. It was a piece of steel an inch wide, $\frac{1}{8}$ inch thick and 12 inches long, and had been dropped into the tire by Dr. Helm's chauffeur when he placed it on the rim six months before. This certainly is a severe test of the wearing qualities of a tire.

RUBBER COVERED SIGNAL WIRE.

WITH a view to increasing efficiency, and decreasing the high casualty rate and the enormous money loss involved, the Railway Signal Association—an American organization—is laboring earnestly to secure a higher degree of quality in the rubber covered wires used in the various railway signal systems now in operation. At the annual meeting of the association at Niagara Falls, on October 10-12, 1905, a special committee that had made an investigation of the subject made a report that was of importance, its reading being followed by an interesting discussion. By the way, there were 215 members present and 82 new members were elected. Nearly every important railroad and battery, signal manufacturing company in the United States was represented.

The committee, after remarking generally upon the forces that affect the life and efficiency of signal wires, said that all railroad signal systems are supposed to be so designed that the failure of any part would cause the display of a stop indication, and so be a factor on the side of safety; all signal failures are dangerous because they frequently lead to reckless running, and reckless running often means disaster. For these reasons it was unsafe and wasteful to use any but the best signal apparatus and material available. The report expresses regret that in the absence of rigid specifications signal companies are often tempted to supply cheaper grades of material to enable them to underbid competitors, using rubber covered wire the insulation of which, while of good quality, is so thin as to be unsuitable. The usefulness of such wire is soon destroyed, but much mischief is apt to be wrought before the deterioration is discovered and new wire installed.

There is no manufactured product in which the buyer puts himself so thoroughly in the hands of the manufacturer as in rubber covered wires and cables, says the committee; the manufacturers have shrouded the subject with much mystery, yet it cannot be denied that the purchaser is entitled to know exactly what he has paid for. Speaking of rubber insulation in detail, the committee believes the vulcanized rubber compound must consist of not less than 30 per cent. of the best grade of fine Pará, mixed with sulphur and dry inorganic mineral matter only. Various methods were given for testing rubber covered wires for the purpose of determining just what the insulation is, and for showing how to detect defective or inadequate insulation. The manufacturer should provide at his factory all apparatus and other facilities for making the required physical, chemical, and electrical tests.

President Morrison asked the wire manufacturers present if they could comply with the specifications based on the report. Mr. E. Morss, of the Simplex Electric Co., replied that speaking for his own and three other companies, he could not conform exactly to the specifications.

Mr. A. Ames, Jr., chairman of the special committee and signal engineer of the Lake Shore and Michigan Southern railroad, said he was using wire manufactured by a number of companies and all of it fully met the specifications called for in the report of the committee. He believed the manufacturers present should say what in detail was the matter with the specifications suggested, and tell why they could not meet them.

Mr. Morss replied that by using more than 30 per cent. of rubber he could meet the requirements; when he first spoke he had been thinking of a compound containing just 30 per cent. rubber and 70 per cent. dry mineral, and sulphur only. He considered such a compound a poor one from an insulation standpoint. Other manufacturers he knew regarded as unsuited for the purpose and feared, on the question of life. If the 70 per cent. dry mineral clause was dropped the whole problem would be changed and become comparatively easy of solution. He was willing to give a 30 per cent. rubber compound if allowed to mix it as seemed to him best. Mr. Morss objected to Mr. Ames's specification regarding physical requirements and suggested a number of tests that were different from those suggested by Mr. Ames.

The suggestions of the committee were generally favored, the very few dissenters comprising those who, while they did not object to the 30 per cent. pure Pará clause, did want to reserve the right to mix the remaining 70 per cent. of the component parts of the insulating compound according to their own ideas.

Mr. J. E. Ham, of the Hazard Manufacturing Co., thought the specifications called for in Mr. Ames's report were all right in a general sense, but he would recommend that they be amended so as to permit the introduction of a small proportion of ingredients other than dry mineral matter. The report was finally adopted in its entirety as a "report of progress."

BRITISH CABLE MAKERS' ASSOCIATION.

THE following circular has been issued:

"As some considerable amount of misapprehension seems to have been created in the minds of electric cable users as to the objects and aims of the Cable Makers' Association as now constituted, we desire to state exactly what the present position of the association is. Some seven years ago the leading cable makers decided that, unless steps were taken to remedy the matter, the quality of the V. I. R. [vulcanized India-rubber] cables sold must ultimately deteriorate owing in great part to keen competition, and to prevent this they agreed amongst themselves to adopt as a minimum the competitive prices then prevailing, and to compete only in quality. To facilitate trade, and to protect the user, the cables of the three grades then most in use were standardized both as regards the weights and resistances of the copper conductors, the thickness of dielectric, and the protecting coverings over all. It was further decided that for these grades only the best rubber should be used, the quantity to be varied according to the grade, and the necessary ingredients added according to the experience of each manufacturer.

"Until recently only these association grades were made by the members of the association. Lately, however, a lower class of cable has been adopted by some users, and they have pointed out to members of the Cable Makers' Association that there is a real and legitimate demand for such cables for certain purposes, and that engineers and contractors would be glad to purchase in certain cases this lower class of cable from houses of good experience and repute who had hitherto abstained from selling any goods other than those of the high standard they had set up. As an outcome of these representations some of the members of the Cable Makers' Association placed on the market a lower class under the name of non-

association cables, in the belief that, although admittedly the quality was lower, they should secure these special orders owing to their long experience in manufacture and their technical skill. This action and the recognition by engineers and contractors of the advantages of buying from makers of the highest standing has led those makers whose trade existed on the basis of low price alone to misrepresent the motives of the Cable Makers' Association.

"Having thus officially explained our position, we suggest that where cables of the best grades are required, engineers should specify association grades made by a member of the Cable Makers' Association, but in case where an inferior class can be used, we believe the buyers will get the best value for his money by ordering non-association class from a member of this association. In order to prevent misunderstanding, the two classes have distinctive labels attached to the coils. Association cables have, under the canvas wrapping a yellow label, stating the class of cable and also its electrical particulars. This label is tied round each coil by a tape secured by a lead seal. The tape and seal must be broken before the coil can be unwound. Non-association cables have a green label giving similar particulars, which is attached to each coil in the same way. Outside the canvas wrapping each coil has an ordinary tag label—either yellow or green as the case may be—giving manufacturer's name and address and class of cable.

"THE ANCHOR CABLE CO., LTD.

"THE BRITISH INSULATED & HEISEY CABLES, LTD.

"CALLENDER'S CABLE & CONSTRUCTION CO., LTD.

"CONNOLLY BROS., LTD.

"W. T. GLOVER & CO., LTD.

"W. T. HENLEY'S TELEGRAPH WORKS CO., LTD.

"THE INDIA-RUBBER, GUTTA-PERCHA & TELEGRAPH WORKS CO., LTD.

"THE LONDON ELECTRIC WIRE CO., LTD.

"SIEMENS BROS. & CO., LTD.

"THE WESTERN ELECTRIC CO."

NEW HOME OF THE "SIRDAR" TIRE.

FROM England Mr. J. M. MacLulich, managing director of The Sirdar Rubber Co., Limited, writes to the Editor of THE INDIA RUBBER WORLD the following breezy description of their new works at Limpley Stoke:

"And now for a few facts about the new mill. We are doing it in regular American style; we don't get possession of the buildings until January 14, yet the machinists have delivered and are erecting a train load of machinery, and the majority of the foundations are in. The buildings are all built of the best Bath stone, and the floor space is about

100,000 square feet; there are three independent sets of engines and small water power (about 45 HP.) which is very acceptable, as it is so cheap and constant.

"We are right in the middle of a coal district, and can get coal delivered to the mill under 10 shillings a ton; we have a canal close by, and two railway services with good connections to the Midlands and to London, the train taking only about two hours. For shipping we are very central, being within easy distance of Southampton, London, or Bristol, and labor and living is cheap in West Wiltshire.

"The old mills, even through the dead season, are working all day and night, with two shifts; and I anticipate before a fortnight expires, after our taking possession of the new mills, we shall have a large portion of the new machinery erected and working. So you see you have not got it all your own way in America; we can do things quickly here if things are set about in the right way; yet I must say I do admire the quick way in which our cousins across the Atlantic move in business."

The Sirdar Rubber Co., Limited, are justly pleased with a letter received from the Star Omnibus Co., Limited, of London, who are operating motor buses, which says, in substance, that Sirdar tires supplied for their double deck omnibuses have proved so satisfactory that the company have decided to contract to supply the whole of their buses with Sirdars for the next year. Besides the buses now running they will need 25 additional ones by the end of February, with more to follow. They look forward to a very large expansion of the motor bus service.

CHARLES MACINTOSH & Co., Limited, have in their offices at Manchester a great curiosity in the shape of a beautiful carved statue of a Crusader that probably no money could buy. One of their workmen becoming impressed with a picture, took a block of hard rubber and from it carved the statue which is in every way a most beautiful and artistic piece of work. The lines are perfect; the expression of lofty resolve on the face of the warrior zealot, the armor, the huge sword with its hilt made in the shape of a cross, speak eloquently for the genius of the man who was, after all, through life only an humble rubber worker.



NEW FACTORY OF THE SIRDAR RUBBER CO.

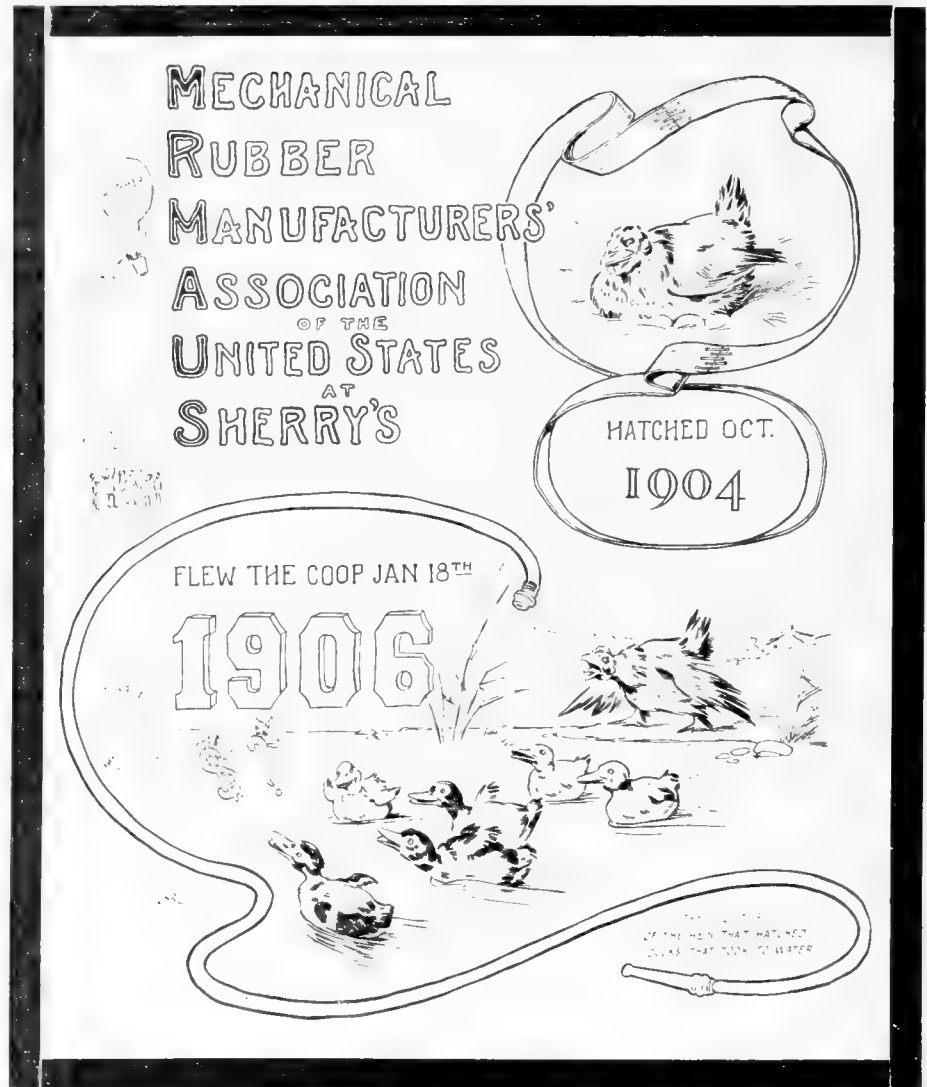
THE SLOGAN OF THE M. R. M. A.

SHERRY'S beautiful banquet hall, in New York, decked with flowers and palms and its center occupied by an oval table with covers laid for fifty diners, the center of the table a mass of lilies, was the sight that greeted the members of The Mechanical Rubber Manufacturers' Association of the United States on the evening of January 18. There were not quite fifty present, but those who gathered were full of the spirit of brotherly love, and both at the informal reception which preceded the dinner and at the table, allowed this spirit full scope. It had been expressly provided that the occasion was to be free from speech making and the result was almost everybody spoke, very informally to be sure, but very well. At the close of the dinner, the president, Bertram G. Work, arose and briefly reviewed the history of the Association, describing vividly what it had accomplished in eliminating all of the abuses incident to the trade that it represented. He did this so seriously that the listeners did not at first catch the vein of delightful sarcasm which ran through the speech, and it was only when he presented the resignation of all the officers and announced the dissolution of the Association, that the crowd awoke.

It was then that they began to appreciate the full meaning of the illustrations on the front page of the menu, and when they had fairly grasped this then came the final death blow to the Society in the shape of a beautiful souvenir knife, one of Reed & Barton's most artistic productions, on the handle of which was engraved, "SLOGAN OF M. R. M. A." Immediately following the Association's demise, came the "wake," in which many speakers took part. Among them were Welling G. Sickel, William H. Hillman, Ernest F. Hopkinson, H. E. Raymond, James Boyd, Henry C. Pearson, Herbert W. Du Puy, C. A. Daniel, H. F. Hering, Wilmer Dunbar, J. J. Voorhees, Jr., and others. The thought that ran through most of the speeches was that if the Association had failed in everything else, it had been successful in engendering the spirit of good fellowship among its members.

The exercises were much enlivened by the presence of a fine orchestra and a quartette of colored vocalists, who rendered "coon songs" with a perfection rarely equalled. From a business standpoint the finish of the Association was most complete, all the money in the Treasury going for the banquet and nothing remaining for *post mortems*. Ex-President Work paid Ex Secretary Hillman a handsome compliment, stating that he had done most of the work, and exceedingly well.

One point in Mr. Work's speech is worth emphasis. It had been whispered about that he had evolved a plan under which all could work without violating in the least any obligations. The audience were therefore on the *qui vive* to hear the solution of their troubles. This, perhaps, was the reason that they were so slow to catch on to the truth that the end of the Association was in sight. And so firmly was this thought in their minds that it was not until the speaker, in plain English, or as H. E. Raymond wittily said, "with much grace of *benediction*" plainly announced the end, that they understood.



FRONT OF MENU (MOURNING BORDER ADDED).

M E N U		
Les Hors D'Oeuvres A La Pascal		<i>Martini</i>
Huitres Cape Cods		<i>Cocktails</i>
Consommé De Tortue Verte		
Marquereau Espagnole Sur Planche		<i>Chateaux</i>
Sauce Moutarde Concombres		<i>Carbonniers</i>
Selle D'agneau De Printemps		
Pommes Hollandaise		<i>Champignons Au Beurre Lie</i>
Terrapin Maryland		
Sorbet		
Pintarde Roti		<i>Pommery</i>
Salade Romaine et Chives		<i>1900</i>
Glace Fantaisie		<i>White Rock</i>
Fruit		<i>Fromage</i>
	<i>Café</i>	
	<i>Cigars and Cigarettes</i>	<i>Liqueurs</i>
Sherry's		
Le 18 Janvier, 1906		

TIRES AT THE NEW YORK AUTOMOBILE SHOWS.

NEW YORK has lately seen two automobile shows, each larger and better than the single show held for five years past at Madison Square Garden. The two shows really made but one, so far as the public went, since the two were less than a block apart, and the street exhibits actually made it all continuous. And instead of being a "national" show, as one of the exhibitions was officially termed, the whole might properly have been called an international show, on account of the number of French, German, and English exhibits of both automobiles and accessories. The attendance throughout the week January 13-20 inclusive, was sufficient testimony to the great hold which automobilism has taken upon American life, in its social and commercial aspects.

Even a cursory review of the shows as a whole is out of question in the space available here. Neither a catalogue of the automobile exhibits can be given nor a description of the decorations, both in the Madison Square Garden and the new and beautiful Sixty-ninth Regiment Armory, which presented a more artistic aspect than had been seen before at an automobile show in America.

The reason for two shows, primarily, was that Madison Square Garden, which had been shared in past exhibitions by all the motor car interests, was secured for this year by the Association of Licensed Automobile manufacturers, composed of the makers of automobiles under the Selden patents. The Automobile Club of America, therefore, repaired to the new Armory building, where, with the active help of the American Motor Car Manufacturers Association—manufacturers who refuse to recognize the Selden patent—was organized a show second in neither attractiveness nor attendance to that which the public had been accustomed to visit at the Garden.

The number of automobile tire manufacturers exhibiting was greater than ever before. More American rubber firms have taken on their production, and the number of foreign makes offered in this market has increased. Naturally novelties are pushed strongly to the front, and a detailed report of the shows would necessarily give to some of these novelties a prominence out of proportion to their commercial importance. The one dominant feature, however, was the prevalence of the "clinch" detachable type of tire for all but commercial vehicles, and it was hard to find a tire of any type that would not fit the "clinch" rim.

The second impressive fact was the dread of punctures and skidding, as shown in the vast number of casings and treads, designed to prevent these mishaps. In the matter of treads the Bailey and the "Samson" types are the standards to which the others approximate more or less closely. The Bailey, an American patent, is a rubber tread with round projections or studs of rubber rising from the surface, designed to get a better grip on the ground, to lessen the danger of punctures, and to lengthen the life of the tire. The "Samson," a French invention, consists of a leather casing, fitting any tire, and a leather strap atop, riveted to the casing, and bearing rolls of round steel studs. The leather casing is vulcanized to the tire shoe.

The same dread of punctures has also brought about a certain recrudescence to the old solid and cushion types with various modifications. These were mostly found at the Armory and attracted considerable attention from people who are willing to forego some resiliency for the sake of certainty in getting there and back. Single tube or hose pipe tires are still shown by several important companies, though these are practically obsolete.

"Single tube," by the way, is so seldom heard, that its counterpart "double tube" is a misleading term, suggesting a particular device like that shown by the Diamond company, rather than the prevalent type of pneumatic. The term "detachable tire" has also taken on a special significance, meaning a tire which is removed by taking off one of the rim flanges, which hold it on. Quite a number of these were shown, designed to make repairs easy. A tendency exactly opposite to the "detachable" feature is shown by the increased use of other devices to make the tire *stay on*, regardless of punctures and skids. To high speeders this seems to be the all important point. The tendency of all car drivers who want speed on easy riding is to run on soft tires, while all tire makers urge that they be blown tight. Running on loose tires tends to crack the sides of the tire, which tendency is largely offset by a shape which will distribute this strain, and by regulating the relative thickness of the rubber on the sides and tread. Hence it was noticeable that all clincher tires are pretty much the same in section—that is circular instead of J shaped as last year.

With one or two exceptions the tire exhibits were duplicated in the two shows, so that in the details which follow it will not be necessary to specify where the tires were seen. And most of the exhibits, on the closing night, were started for Chicago, for the great automobile show in progress there, at the Colosseum as these pages go to press.

THE TIRES IN DETAIL.

AMAZON RUBBER CO. (Jamestown, N. Y.) showed a motor tire of the clincher type, in the exhibit of the E. J. Willis Co. (New York), dealers in motor supplies.

CONSOLIDATED RUBBER TIRE CO. (New York) showed the Kelly-Springfield endless solid tires, a feature of which is V shaped retaining rings, wrapped spirally with canvas to which the rubber vulcanizes; the rings are inserted in the base of the rubber and, bearing directly on the band of the wheel, eliminate internal friction. Also, single tube vehicle tires.

REPRESENTATIVES: Van Cartwell, president; Frederick A. Seaman, secretary; E. S. Roberts, New York branch manager; F. A. Oatman, New York and New Jersey traveler; F. E. Holcomb, southern representative; E. Kissell, Philadelphia representative.

THE DIAMOND RUBBER CO. (Akron, Ohio) showed their "Diamond clincher," which this year is practically round in tread. In the way of novelties was a flat tread pneumatic tire, otherwise of the regular Diamond construction, and a "diaphragm" tube, which really is one tube within another; if the regulation tube is punctured, the interior or emergency tube can be inflated without removal of the tire, by means of a separate valve. In addition to the Bailey tread, the Diamond showed a steel studded anti-skidding

tread of their own. They have a new "anti-friction" solid tire, having a wire mesh base, besides which they make the Firestone side wire tire. The "Burnham" tire protector is a heavy shoe of rubber and fabric, resembling an ordinary tire cover without beaded edges, to be placed over and around a worn tire. Their exhibit included also the Marsh rim for automobiles, which is of the detachable flange type, and has been described in THE INDIA RUBBER WORLD as the "Bryant" rim.

REPRESENTATIVES.—W. E. Miller, secretary; O. J. Woodard, factory representative; Branch managers: Harvey Woodard and J. W. Hobbs, New York; O. S. Tweedy, Chicago; E. H. Fitch, Philadelphia; W. T. Helfer, Boston; W. M. Perrett, Detroit; N. E. Oliver, Buffalo; G. J. Bradley, Cleveland. Salesmen: R. W. Snowman, I. Applton, G. A. Davidson and D. W. Miller, New York; Joseph Bennett, Philadelphia; W. P. Cronin, Boston; J. F. Lanier, representing the Burnham tread.

ELECTRIC RUBBER MANUFACTURING CO. (Rutherford, N. J.), a new concern, showed "Panther" auto tires made on the clincher pattern, "Panther" stockinette covered inner tubes, and solid tires invented by A. Dewes.

(REPRESENTATIVES.—James H. George, president; A. Dewes, patentee; H. A. Middleton, factory superintendent; D. D. Martin, New York branch manager; John Graham and Mr. Eaton, salesmen.

FIRESTONE TIRE AND RUBBER CO. (Akron, Ohio) showed their standard side wire tire, for automobiles and commercial wagons, there being specimens wider than any before shown. They showed also the "Firestone" mechanically fastened pneumatic tire. This differs in form from tires of the "clincher" type, being held in place by flanges bolted through the felloe, though a special wheel is not required.

REPRESENTATIVES.—H. S. Firestone, president; S. C. Carkhuff, secretary; J. M. Gilbert, general sales manager. Branch managers: W. P. Berrien, and W. W. Wells, New York; R. J. Firestone, Chicago; A. J. Greene, Boston; E. E. McMasters, Detroit. Salesmen: A. G. Partridge, general salesman, Akron; Harry Esterly, T. J. Glenn, H. A. Palmer, T. B. Talbott.

THE FISK RUBBER CO. (Chicopee Falls, Massachusetts) showed their mechanically fastened detachable tire in three types: the "molded type," the "heavy car type," and the one with a Bailey tread. The molded type is egg-shaped in section, and has no breaker strip. The heavy car type has a round section, with a thicker tread and a breaker strip, the tread being attached by a second vulcanization. The fabric is also made much stronger, and attention is called to the cushion of soft rubber under the tread. The Bailey tread tire shows a round section. They also furnish red inner tubes.

REPRESENTATIVES.—H. T. Dunn, president; E. H. Broadwell and Frank C. Riggs, vice presidents; H. G. Fisk, secretary; A. N. Mayo, treasurer; J. C. Cole, superintendent; E. H. Brandt, factory representative. Branch managers: J. W. Bowman, New York; Geo. Campbell, Boston; Morris Penrose, Philadelphia; B. H. Pratt, Chicago; W. J. Lambe, Detroit; E. A. Hoffman, Buffalo; F. C. Vanderhoof, Cleveland. Salesmen: J. W. Meixell, B. D. Meixell, J. H. Cody and Fred Avers.

THE G & J TIRE CO. (Indianapolis, Indiana) showed their standard "G & J tire," which this year is not molded, but wrapped and cured in open steam in one piece. They have changed the fabric filler of the bead core for one of hard rubber. All their tires have inside flaps to prevent pinching, and Bailey's "Won't Slip" treads are furnished when desired. They also offer the Dunlop, but only in smooth treads.

REPRESENTATIVES.—H. O. Smith, president; C. H. Semple, secretary; H. A. Githens, general factory representative; Arthur Smith, New York representative; W. G. Whitlock, Middle States representative. Branch managers: A. E. Vinton, Cleveland; H. L. Johnson, Boston; Byron Dowse, Chicago; R. Leedmans, San Francisco; H. A. Smith, Buffalo agent; D. B. Price, New England salesman; A. M. Scroggs, Cleveland salesman.

THE B. F. GOODRICH CO. (Akron, Ohio) showed their standard "Goodrich clincher" more nearly circular in cross section than hitherto, in connection with a new rim, with a

detachable flange, the merit of which is that it facilitates the application and removal of the tire—a most desirable consideration where prompt repairs are necessary. The new feature will be more fully described in another place. It is pointed out that the greater ease with which the tire may be removed in no sense lessens its safety. The exhibit again included the Firestone side wire solid tire, which the company make under royalty and Bailey's "Won't Slip" tread.

REPRESENTATIVES.—H. E. Raymond, general sales manager; A. J. Wills, manager tire department. Branch managers: F. Y. Stewart, New York; J. W. Lyman, Philadelphia; H. E. Limerick, Boston; W. O. Rutherford, Buffalo; C. H. C. Miller, Detroit; O. R. Cook, general representative; Edward Bonham, New York city representative. Salesmen: A. F. Scholer and W. H. Hart, New York; W. H. Whitenack, Brooklyn; H. B. Niblette; C. E. Tremmel, Albany; W. J. Burns, Bridgeport, Conn.; C. H. Sutherland, Hartford.

THE GOODYEAR TIRE AND RUBBER CO. (Akron, Ohio) showed their "Goodyear clincher," and the Universal rim, which latter appeared for the first time at last year's shows. Their special novelty is the "riveted fabric," of which their tires are made. The threads of this fabric are not woven, but "laid," so that square openings are left at regular intervals, through which the layers of rubber come into actual contact, thus producing the "riveted" effect. The canvas plies are also laid in "on the bias," to give greater elasticity, and so that the threads will be best placed to stand the running strain, which they claim is in a direction diagonal with the circumference of the tire. They also showed the "Heine" tread, designed to be skid proof, being made of rubber with cupped steel buttons set in depressions in the tread.

REPRESENTATIVES.—F. A. Seiberling, general manager; C. W. Seiberling, secretary and treasurer; G. M. Stadelman, manager vehicle tire department; Branch managers: K. B. Howard, New York; William Teagan, Boston; W. B. Fewell, Buffalo; O. L. Weaver, Cincinnati; A. F. Osterloh, Chicago. Salesmen: H. G. Fittler, Philadelphia; M. M. Norton, middle west; Mr. Penniman, Boston.

THE HARTFORD RUBBER WORKS CO. (Hartford Connecticut) showed their standard "Hartford Clincher," with certain changes. The fabric is much stronger, the bead is encased in asbestos to prevent rim cutting, and a strip of pure gum is also placed between the fabric and the rubber cover proper, running up over the breaker strip, also. The whole tire is cured at once, in the exact shape which it will assume when in service. This one-cure process, it is pointed out, relieves the tension on the fabric, and offsets any tendency to split. In the "Hartford Dunlop," also vulcanized entire at one operation, the fabric is 40 per cent. stronger than before. The principal novelty in this exhibit was "Universal rim," and the "Floating ring." Last year's detachable flange, which was hollow and elliptical in section, has been pressed in, on one side, so that when reversed it will also hold a clincher. The channel in which the flange rests has also been deepened, and has been cut out at one point to allow the turnbuckle to protrude slightly. The floating ring is entirely new, being an endless band of light, galvanized metal which rests upon the rim, and whose sides spread out the edges of the tire against the flanges. It also fills the space between the edges of the tire, making the air chamber perfectly round, thus preventing pinching, as well as serving as an endless lug, and preventing pinching. The Hartford company also showed their Turner endless solid tire, in which the fabric around the wires has been thickened.

REPRESENTATIVES.—J. D. Anderson and Thomas Midgley, vice presidents; J. W. Gilson, secretary and treasurer; M. H. Plow, assistant secretary; Branch managers: E. S. Benson, New York; E. R. Benson, Boston; E. S. Row, New York; S. E. Gillard, Chicago; F. Kesser, Philadelphia; George Ostendorf, Buffalo; H. R. Anderson, Cleveland; H. E. Field, Detroit; A. O. Holroyd, manager Hartford Dunlop department. Salesmen: H. F. Snyder, New York; W.

R. Batnes, Philadelphia; A. D. Cruden, New Jersey; W. C. Holmes, New York; R. H. La Porte, Pennsylvania; A. W. Kirk, southern states; Richard Clunen, New England; H. Severance, western states; E. J. Dovern, solid truck tires; D. Shattuck, southern representative; W. H. Bell, New York; W. H. Reed, truck tires; C. H. Harbridge, western states.

INTERNATIONAL A. & V. TIRE CO. (Milltown, New Jersey) had an exhibit, the principal feature of which was the "International (Fox brand)" motor tire, made in G & J pattern. They also showed Fox brand tubes separately, in making which there is a reinforcement of the inner or lower circumference.

REPRESENTATIVES.—J. C. Matlack, president; R. S. Ireland and Mr. Tansy, general representatives; Frederic Suhr and Mr. Fisk, eastern representatives; W. H. Dougherty and C. R. Van Aiken, western representatives; T. A. Bruen and J. W. O'Mara, northwestern representatives.

THE MILWAUKEE RUBBER WORKS CO. (Cudahy, Wisconsin) showed their principal tire product, the Fawkes airless non puncturable motor, which, while retaining all the original features, is now adapted to the clincher rim.

REPRESENTATIVES.—John Mac Millan, general manager; F. P. Johnston, New York, branch manager.

MITCHELL PUNCTURELESS PNEUMATIC TIRE CO. (Swampscott, Mass.) showed a new tire which comprises a pneumatic tube lying in a deep channel rim, between which and the heavy outer tread are ranged a succession of rubber "legs." Wheels so equipped have a neat appearance, and a full measure of resiliency is claimed, with no danger of punctures.

REPRESENTATIVES.—M. L. Derrick, president; W. R. S. Hall, vice president; H. W. Howard, secretary; O. R. Witter and W. S. Haliburton, directors.

MORGAN & WRIGHT (Chicago) again showed their clincher tires, involving the results of experiments during the past year, as shown in a materially stronger fabric. This applies likewise to the Dunlop tire, which they exhibited this year for the second time.

REPRESENTATIVES.—C. J. Butler, president; A. I. Philp, general sales manager; W. C. Marion, general eastern representative; J. C. Weston, general western representative. Branch managers: G. S. Shugart, New York; A. Measure, Boston; R. C. Kennedy, Cleveland; E. F. Jackson, western representative; T. R. Burton, New York; state salesmen: J. E. McCarthy and G. C. Gaillard, New York city salesmen; E. M. Greene, east Pennsylvania salesman; J. J. Alexander, Illinois salesman.

THE MOTZ CLINCHER TIRE AND RUBBER CO. (Akron, Ohio) were represented by their Motz cushion and solid motor tires, fitted to clincher rims, shown by their New York agents, The Republic Rubber Tire and Shoe Co. The latter concern, of which Frederick E. McEwen is manager, makes a specialty of tire repairing, and exhibited the "Heracles" non skid leather covers; also tire repair outfits.

PENNSYLVANIA RUBBER CO. (Jeannette, Pa.) showed "Pennsylvania" wrapped tread clincher tires, in standard shapes, and also the "Pennsylvania" racing type, the latter being similar in construction to the former, except for a flat corrugated tread.

REPRESENTATIVES.—F. A. Wilcox, vice president and general manager; H. W. Du Puy, treasurer; G. W. Shively, secretary; A. M. Joraleman, manager solid tire department; F. W. Walters, manager bicycle tire department; Branch managers: F. P. Hayes, New York; A. G. Clark, Boston; W. T. Walker, general salesman; Wilmer Dunbar, factory salesman; Warrington McCullough, Philadelphia salesman; Henry Goodman, New York salesman; Mr. Whitmore, New York automobile salesman.

HARBURG TIRE CO. (New York) are North American agents for the Harburg and Vienna India-Rubber Co., of Germany, who are entering this market for the first time. They exhibited the "Harburg" automobile tire, made on the clincher principle.

REPRESENTATIVES.—R. L. Kingston, general manager; P. L. Barry, George Lamberty.

ST. JOHN RUBBER TIRE CO. (New York) exhibited sets of their solid rubber cushioned tire, mounted respectively on an automobile and a bicycle.

THE SWINEHART CLINCHER TIRE AND RUBBER CO. (Akron, Ohio) showed their standard solid rubber tire, which is fitted to a "clincher" rim and further held in place by means of cross wires, the ends of which are engaged by the converging flanges of the rim. Besides the tire as originally made, the exhibit embraced new models.

REPRESENTATIVES.—J. A. Swinehart, president; B. C. Swinehart, general sales manager; E. O. Hoopengartner, New York branch manager. Agents: E. S. Aker, Brooklyn; R. A. Brine, New England; Mr. Bertodini, Philadelphia; R. D. Schaum, Washington; Mr. Streebe, Philadelphia salesman.

VOORHEES RUBBER MANUFACTURING CO. (Jersey City, N. J.) appeared for the first time as exhibitors at an automobile show. They make an automobile cushion tire, designed to obviate all annoyance or danger from puncture; also tire repair outfits, and an extensive line of rubber mats for motor cars.

REPRESENTATIVES.—John J. Voorhees, president; J. J. Voorhees, Jr., vice president and treasurer; John Caldwell, and John Caldwell, Jr., representatives tire department; G. F. Covell, sales manager.

THE FOREIGN TIRES.

THE CONTINENTAL CAOUTCHOUC CO. (New York), the American representatives of the German firm of the same name, exhibited their tires with smooth and corrugated treads; the Samson leather tire on Continental "carcasses"; and various accessories, rubber and otherwise, for the care or repair of tires.

REPRESENTATIVES.—Emil Grossman, general manager; Joseph Grossman, branch managers: E. H. Fahy, Boston; D. T. Keenan, Buffalo; Mr. Hawley, Detroit; F. M. Harris, Buffalo; E. T. Horsey, Cleveland. Representatives: W. A. Rutz and R. W. Spring, New England; W. W. Weller, Buffalo; F. G. Hill and E. S. Brower, New York; J. O. Angier, Boston; H. M. McIlrath, Chicago; J. L. Gibney and Brother, Philadelphia; H. H. Bogen, San Francisco; S. B. Roby, Excelsior Supply Co., Chicago.

MICHELIN TIRE AMERICAN AGENCY, INC. (New York) showed the widely known French tire in different sizes, expressed on the metric scale, and the Michelin non-skid tire, having a notably narrow leather tread, steel studded, and vulcanized to the rubber.

REPRESENTATIVES.—E. D. Winans, general manager; Branch managers: A. F. McWilliams, Boston; R. H. McKinney, Philadelphia; J. B. McTeague, Chicago. J. L. Kier, Philadelphia salesman; R. H. Magoon, Cleveland representative.

SAMSON LEATHER TIRE CO. (New York) made an exhibit of the Samson leather tire at the Madison Square Garden show, in addition to which this article was much in evidence at both shows, being mounted on tires of many makes.

REPRESENTATIVES.—Branch managers: A. E. Gallien, New York; J. Coggeshall, Boston; J. B. McTeague, Chicago; G. P. Moore, San Francisco; L. G. Duquet, New York assistant. Salesmen: E. Sampson; E. Leroux; George Beach.

SOCIÉTÉ INDUSTRIELLE DES TÉLÉPHONES (Paris) have taken on the manufacture of pneumatic tires, which appeared for the first time in America at the Armory show, in an exhibit of Aster & Co., a corporation under New York laws, with \$250,000 capital, formed to market the products of certain French motors and accessories. The French company named have a capital of 18,000,000 francs, and in addition to their electrical output, control two rubber factories. Their rubber covered ignition wires for automobiles were also exhibited.

A VERY neat and practical German novelty is a hot-plate lifter made of strong wire, the handles being covered with soft rubber. The lifter acts exactly like a pair of shears, opening and shutting, the blades being curved to fit under the outer edge of the plate. The novelty is manufactured by Herrmann Schuler, Solingen, Germany.

THE NEW CONTINENTAL RUBBER CO.

THE incorporation of the Continental Rubber Co. under the laws of New Jersey, January 6, with \$30,000,000 capital, caused quite a stir in the rubber trade, the objects of the company being very little understood except to those having inside information. For example, it was supposed in some quarters to be a manufacturing enterprise. Those interested in rubber planting wanted to know whether the great amount of Guayule that might be expected at once to come in would bring the price of other crude rubber down so low that there would be no good market for their product. Right here it is safe to say that no such danger was imminent. THE INDIA RUBBER WORLD interviewed several persons prominent in the Continental company but the information secured was not voluminous. It was learned, however, that the parties interested financially are United States Senator Nelson W. Aldrich of Rhode Island, Mr. B. M. Baruch, Mr. Thomas F. Ryan, Mr. Meyer Guggenheim, Mr. John D. Rockefeller, Jr. (son in law of Senator Aldrich) and certain Mexican financiers who are not named. It was definitely contradicted that John D. Rockefeller, Jr., was either a large stockholder or that he would be president of the company. The president's name was not given, but it was said that the man selected for that office was one whose name was not at all familiar to the rubber trade. Permanent offices for the company will be opened shortly at No. 111 Broadway, New York. From other sources it is known that the company's factory at Torreon, Mexico, is being considerably enlarged, and that an excellent quality of rubber is being secured from the Guayule shrub. It may be stated further that the new corporation is successor to the New Jersey corporation of the same name, formed in 1903 with \$1,000,000 capital. The object of the reorganization remains to be known.

Some holders of United States Rubber stocks expressed anxiety over the organization of the Continental Rubber Co., which, they thought, might become in some way a competitor. This anxiety was not shared in well informed quarters, where it was pointed out that the new company would confine its operations to the crude rubber business, principally in Mexico, while the fact that Senator Aldrich, who is interested in Continental Rubber, is a fellow townsman and friend of President Colt of the United States Rubber Co., and that there are other ties of friendship between interests in the two companies, is a further assurance that the new organization does not intend to trench upon the business of the older one.

The details of promotion of the new company are in the hands of Bernard M. Baruch, who has been associated with the Guggenheims in smelting enterprises in Mexico.

GUAYULE PLANTS WANTED IN GERMANY.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I should feel obliged to you if you could recommend somebody to me in Mexico or New York who can ship large quantities of Guayule plants. Yours truly,

FEIST STRAUSS.

Frankfurt-on-Main, Germany, January 17, 1906.

[It may not be generally known that the new customs tariff schedule of Mexico, promulgated June 20 and taking effect September 1, 1905, includes among the articles sub-

ject to export duty, Chicle at the rate of 20 pesos [= \$9.96] per metric ton, net, and Guayule (in the natural state or ground), 15 pesos [= \$7.47] per ton, gross weight.]

GUAYULE NOTES.

THE Guayule Rubber Co., incorporated in California in November last, with offices in Fay building, Los Angeles, Cal., are producing rubber from the Guayule plant at San Luis Potosi. The president and general manager, who is in charge of the factory, is Mr. W. O. Franklin, sometime representative of the Boston Woven Hose and Rubber Co., at Los Angeles.

= Thomas F. O'Donnell, Hotel Saltillo, Saltillo, Mexico, is desirous of obtaining "a machine that will clean the wood or fiber from the rubber bark"—referring evidently to the extraction of rubber from the Guayule plant.

= The Vienna journal *Das Handels-Museum* reports that the great steel firm of Krupp, in Essen, is interested in a German-Mexican rubber enterprise, interested in a factory at Torreon for working Guayule, under a patent which has been acquired by Krupp's representative.

THE BADLY USED HOT WATER BOTTLE.

A LITTLE book on the mis-use of hot water bottles, sent out by The B. F. Goodrich Co. (Akron, Ohio) is interesting as well as instructive. The cover has a picture of two little red devils poking barbed spears into a water bottle. This does not necessarily imply that the chief market for such wares is in the bad place, but rather expresses the Akron opinion of him who would abuse a good thing, and then blame the Goodrich folks. Thoughtless matrons are gently cautioned against the practice of heating the water by frying the bag on top of the stove, or boiling in the dishpan. The bottles are also said to make good invalid cushions, only so long as they are not used as such. Water bottles are made to stand the weight of 5 or 6 pounds of water with a reasonable margin of strength; but if there were sufficient demand for puncture proof bottles to hold a few pounds of steam pressure, or a 200-pound woman, the Goodrich people stand ready to make them. Turpentine and coal-oil do not seriously injure rubber bottles, either, when carefully kept away from them; otherwise the rubber stands about the same chance as a snowball in—! If Father can afford it, too, the combination of a small boy and a new bag hanging on a nail produces an excellent jumping-jack for several minutes. If orders be properly placed at the factory, the Goodrich company might make water-bags specially designed for this or almost any other purpose. Their ordinary bags are made to hold hot water.

MR. ROBERT EDDY, city salesman for the Goodyear Rubber Co. (Milwaukee, Wisconsin), is the originator of a very catchy post card souvenir which is copyrighted and which many large houses have purchased as an advertising novelty. It is in reality a nice little hot water bottle, made of white rubber bound in red, and attached to a tag, the reverse side of which shows a picture of a pair of feet that certainly did not grow east of Chicago, and between them printed in large type the legend—"Don't Get Cold Feet." This without doubt appeals to the American poker player and he goes after it with both feet.

RECENT RUBBER PATENTS.

UNITED STATES OF AMERICA.

ISSUED DECEMBER 5, 1905.

- N**O. 806,090. Hot water bag [with pocket for holding a nursing bottle]. L. Allenberg, San Francisco.
- 806,101. Endless solid rubber tire. R. D. Bradley, Canton, Ohio.
- 806,182. Horseshoe [with flexible pad]. M. S. Porter, Brigham, Utah, administratrix of M. E. Porter, deceased.
- 806,188. Medical powder application. D. W. Rees, Needles, Cal.
- 806,211. Hard rubber disk and ball for disk water meters. J. Thomson, New York city, assignor to Neptune Meter Co., Long Island City, N. Y.
- 806,235. Rubber holding attachment for pencils. A. F. W. Bowen, San Francisco.
- 806,306. Fountain syringe [Described in THE INDIA RUBBER WORLD, December 1, 1905, page 54.] C. A. Tatum, New York city.
- 806,341. Lawn sprinkler. H. Hamilton, Indianapolis, Ind.
- 806,351. Vehicle tire. A. DeLaski, assignor to The de Laski & Thropp Circular Loom Co., both of Trenton, N. J.
- 806,352. Pneumatic tire. J. P. LaGrand, Levalloil-Per et, France.
- 806,520. Metallic overshoe for vehicle wheels. H. L. Canne, Dingman township, Pike county, Pa.
- 806,546. Flexible ruler. P. C. Lawless, Hampstead Heath, London, England.
- 806,584. Wheel [with cushion tire]. G. N. Sheppard, Fillmore, Minn.
- 806,623. Resilient tire. W. F. Beasley, Plymouth, N. C.
- 806,654. Wheel tire. L. S. Flatau, St. Louis.
- 806,657. Resilient tire. [Provided with a series of rubber block, between an outer and an inner rim]. I. Guiot, Puyricard, France.
- 806,665. Hose coupling. J. H. Henderson and A. Sykes, Houston, Pa.

Trade Mark.

- 13,489. Erasers. F. Faber, New York city. *Essential feature.*—The representation of a circumferential band of yellow or gold color contrasting with a darker color on each side thereof and produced upon a metallic band or holder.

ISSUED DECEMBER 12, 1905.

- 806,810. Wheel tire attachment. [Pneumatic tire, with non-elastic tire casing.] J. F. Horn, Hazelton, Pa.
- 807,073. Bicycle tire. [Inner tube of metallic woven wire, incased in a rubber tube; the inner portion and outer portion are separate.] L. W. Groat, Hudson, N. Y.
- 807,083. Tiling [for flooring or walls]. F. C. Millhoff, Akron, Ohio.
- 807,087. Tire plug. F. B. Parks, Grand Rapids, Mich.
- 807,169. Rectum supporter [consisting of a spherical body of rubber and cords integral with the body]. E. H. Higbee, Roodhouse, Ill.
- 807,184. Hose support. [For garden hose.] J. E. Malnburg, San Francisco, Cal.
- 807,311. Tire for vehicles. [Comprising a plurality of rubber tire units, clamped to the wheel by a circular band.] R. B. Parker, Hartford, Conn.
- 807,351. Pneumatic tire [adapted to clincher rim]. J. H. Bleoo, assignor to A. B. Levy, both of New York city.
- 807,365. Water bag. [Described in THE INDIA-RUBBER WORLD, May 1, 1904—page 280.] A. C. Eggers, assignor to Goodyear's India Rubber Glove Mfg. Co., both of New York city.
- 807,366. Surgical operating cushion. *Same.*

Trade Marks.

- 10,389. Particular kind of restored or devulcanized rubber manufactured from waste rubber goods. Philadelphia Rubber Works, Philadelphia. *Essential feature.*—The word **EURRKA**.
- 14,324. Flexible tubing. Chicago Tubing and Braiding Co., Chicago. *Essential feature.*—The word **REX**.
- 14,456. Packings. Keasbey & Mattison Co., Ambler, Pa. *Essential feature.*—The word **AUTOBESTOS**.

ISSUED DECEMBER 19, 1905.

- 807,499. Hose coupling. P. Roulstone, Bayonne, N. J.
- 807,500. Fountain pen. W. W. Sanford, Newark, assignor of one half to F. D. Bennett, Freehold, N. J.
- 807,537. Pneumatic tire [having a plurality of inflatable sections, with a connecting tube]. E. M. Birdsall, assignor of one half each to M. B. Birdsall and F. J. Barron, all of Buffalo, N. Y.
- 807,595. Hose coupling. W. H. Brewer, Rolling Prairie, Ind.
- 807,597. Respirator. G. T. Carpenter, Chicago.
- 807,633. Tire [comprising a series of elastic blocks, held in place by a suitable rim]. J. F. McCanna, Chicago.
- 807,748. Elastic vehicle tire [An endless cushioned body, held in place by transverse bolts through the tire and rim flanges.] G. Knadler, Akron, Ohio.
- 807,825. Composite heel for boots and shoes. F. W. Hunt, Boston.
- 807,844. Eye protector. E. Mirovitch, Paris, France.
- 807,905. Syringe [for dental use]. J. C. Blair, assignor of one half to the Blair Dental Mfg. Co., both of Louisville, Ky.
- 807,908. Exercising device. H. J. Bradstreet, assignor to Auto Physical Trainer Co., both of Buffalo, N. Y.
- 808,008. Hose coupling. J. Z. Cagle, Upward, N. C.

ISSUED DECEMBER 26, 1905.

- 808,074. Tire cover [with non-skidding tread]. J. C. Dufour, Charenton, France.
- 808,219. Hose coupling. H. A. Schroeder, Baltimore, Md.
- 808,272. Reservoir attachment for pens. H. R. Chubb, Greenwich, England.
- 808,288. Storm shield for buggies and other vehicles. S. B. Laune and C. M. Shelden, Woodward, Okla.
- 808,426. Cushioned tire. C. W. Adsit, Owatonna, Minn.
- 808,433. Abdominal supporter or bandage. W. R. Cartledge, assignor to W. F. Ware, both of Philadelphia.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each, postpaid.]

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1904.

* Denote Patents for American Inventions.

AS STRAILED IN THE OFFICIAL JOURNAL, DECEMBER 1, 1905.

- 17,579 (1904). India-rubber substitute. [Amber is dissolved in castor oil and heated with sulphur. Ozonized air is passed through the cooled mass until it becomes viscous, after which calcium carbonate, benzol, and sulphur chloride are added.] H. Tiehsen, Berlin.
- 17,629 (1904). Hoof pad. B. P. Gray, Birmingham.
- * 17,721 (1904). Fountain pen. F. C. Brown, New Brighton, New York.
- 17,722 (1904). Artificial hand [comprising a rubber glove]. A. Grogan, London.
- 17,759 (1904). Elastic tire [consisting of a metal band having wedge shaped projections; two corrugated leather bands having rubber pads, a band of leather, another pair of corrugated bands with rubber pads, and a leather cover]. A. J. Boulton, London.
- 17,909 (1904). Protecting leather band for pneumatic tires. C. Watkins, Woodford Bridge, Essex.
- 17,914 (1904). Eraser [protected by a clip of leather covered steel]. W. Appleyard, Sheffield.
- 18,129 (1904). Cover for pneumatic tire. [To fit the cover over the air tubes without creases, the notches in the cover are furnished with laces, the cover being attached by straps.] A. Hanamann, Vienna, Austria.
- * 18,160 (1904). Elastic tire. C. C. Worthington, New York city.
- 18,251 (1904). Inflatable wearing apparel. [Garments to be used as life buoys.] Mr. Lloyd, Roscommon, Ireland.
- 18,424 (1904). Pneumatic tire for heavy vehicles. C. H. Gray, Silvertown India-rubber Works, and T. Sloper, Devizes, Wiltshire.
- 18,506 (1904). Heel protector. E. Wootten, St. Marks, Bristol.

[ABSTRACTED IN THE OFFICIAL JOURNAL, DECEMBER 20, 1905.]

- 18,545 (1904). Device for detecting punctures in tires. T. Mitchell, Manchester.
- 18,588 (1904). Cap for jars and feeding bottles. [To prevent the rolled edge of a teat or cap from becoming permanently stretched, owing to imperfect vulcanization, a spring is inserted.] M. D. Armstrong, Forest Gate, Essex.
- 18,651 (1904). Apparatus for separating India-rubber from waste. H. Penther, Hanover, Prussia.
- *18,758 (1904). Dental syringe. C. G. Myers, Cleveland, Ohio.
- 18,894. Heel protector. A. V. Campbell, Hornsey.
- [ABSTRACTED IN THE OFFICIAL JOURNAL DECEMBER 29, 1905.]
- 19,012 (1904). Non-elastic tire. [A series of wooden tread blocks provided with a rubber seating are secured by bolts to the felloe.] W. G. Titherington, Liverpool, and F. J. McBrearty, Bottle, Lancashire.
- 19,033 (1904). Heel protector. A. Rooney, Bolton, Lancashire.
- 19,093 (1904). Elastic tire [laterally corrugated to form treads, having hoops of ebonite vulcanized to the base]. C. Challiner, Manchester.
- *19,117 (1904). Cushion tire and cover for the same. H. E. Irwin, Galesburg, Illinois.
- 19,197 (1904). Elastic tire [with holes in rows in the tread portion, the holes extending partially through to the base of the tire]. *Same*.
- 19,314 (1904). Boot. [To increase elasticity an India-rubber pad is inserted between the inner and outer sole.] E. J. Burnett, Woolwich.
- 19,362 (1904). Boot. [To facilitate ease of repairs an edging is attached to the insole so as to form a recess in which are placed removable blocks of rubber held in position by a plate.] A. G. Grice, Carnoustie, Forfarshire.
- *19,369 (1904). Elastic tire [held in position by bolts which are free to move on washers of leather]. C. H. Bryan, Chicago, Illinois.
- 19,384 (1904). Detachable band for tires, to prevent slipping and puncture. G. J. Arnold, Torquay, Devonshire.
- 19,393 (1904). Pneumatic tire. [A channel rim carrying an inflated tire is secured on the metal rim by bolts.] E. C. DeFilippi, London.
- 19,404 (1904). Tire cover. [Metal shoes hinged together to form a band to prevent slipping and puncture.] H. P. Jump, London.

THE FRENCH REPUBLIC.

PATENTS ISSUED (WITH DATES OF APPLICATION.)

- 355,286 (June 16, 1905). Société anonyme des Usines de Gravigny. Metal rim for pneumatic tires.
- 355,339 (June 19). G. Muller. Process for mending torn pneumatic tires.
- 350,149 (Sept. 1, 1904). Société Jules Jean et Cie., et M. Ranerat. Process for condensing the vapors of volatile solvents.
- 355,398 (June 20, 1905). W. Vale. Pneumatic tire.
- 355,470 (June 22). A. Falque. Tire.
- 355,472 (June 23). J. Van Langenhaven. Device for protecting pneumatic tires.
- 355,630 (June 26). E. Lejeune. Composition for automatically stopping tire punctures.
- 355,634 (June 26). C. R. Bullard. Wear-proof pneumatic tire.
- 355,621 (June 29). Detachable shoe pads for horses.
- 355,496 (June 23). G. A. Lefebvre. Apparatus for extracting latex from rubber plants.
- 355,611 (June 5). K. Von Stechow. Method of extracting latex from rubber plants.
- 355,642 (June 26). G. L. Pelicier. Method of attaching rubber tires to wheels of heavy vehicles.
- 355,649 (June 27). G. L. Krol. Means of preventing side cracking of motor tires.
- 355,724 (June 17). Fourniand. Pneumatic tire designed not to blow out or sidecrack.
- 355,740 (June 27). Bowley and Haumer. Process for the manufacture of rubber goods.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Bobet, Ingenieur-Counsel, 16 avenue de Villiers, Paris, at 50 cents each, postpaid.]

WHAT DR. KITTLER KNOWS (?) ABOUT RUBBER.

[FROM "GUMMI ZEITUNG" (DRESDEN) OCTOBER 6.]

MARVELOUS must be the rubber shoes made after the method described by Herr Dr. Kittler. This gentleman contributed to several daily papers an article under the heading "Der Gummi," which in so far as it relates to the rubber technique is criminally incorrect. Some jester must have taken advantage of the Doctor's credulity, for he could never have seen or read such perversity. Just listen:

"The extraordinarily simple manner of manipulating rubber makes it easy for us to comprehend the manufacture of any article in ordinary use made of rubber. We will take for instance the well known rubber shoe. It is made by various methods, but generally this way: The sole and upper are specially shaped and then pasted together on a pattern. The material, before shaping, is of course dyed black, which is accomplished by kneading it thoroughly, while still in the crude state, with lamp-black; a gentle heat being applied to render the rubber more pliable. For this every factory has its special formula, but the main principle, the coloring of the crude material and the shaping, by kneading, before the rubber is vulcanized, as well as the pasting together of the component parts, is always the same. After color and shape have been imparted to the rubber shoe in this manner it is made hard by hard vulcanization. This is effected by adding from 30 to 35 per cent. of sulphur, after which it is subjected to heat, at 135 degrees, for from 5 to 6 hours. This accomplished, the rubber shoe is complete, and it merely remains to give it a fine black gloss. Special polishing machines are employed for this purpose, by which the exterior is polished with powdered pumice stone. Many rubber shoes have a cloth lining which is made to adhere to the sheet rubber by pressing it on between two rollers."

And further: "Although the rubber industry has attained a high degree of perfection several defects are still quite apparent. First, this one, that as yet it has been impossible to check the gradual hardening of rubber goods, tending to render them unserviceable; and secondly, that no particular usefulness has been found for old rubber goods, especially, that no cheap process is known by which the sulphur contained therein can be reclaimed. The solving of these problems would be an enormous advance in the economy of the whole rubber industry."

Tears of laughter have been shed by us on reading this, and our readers no doubt will be similarly impressed on reading such wisdom. The problem "to reclaim the sulphur from old rubber in a cheap manner," is certainly the acme of the reclaiming science. Saint Bimbam!

RUBBER IN SOUTH INDIA.

THE Periyar Rubber Co., Limited, has been formed to acquire the Thattakaad estate on the Periyar river, in Travancore, with an authorized capital of 1,000,000 rupees [= \$324,444]. The initial issue is 400,000 rupees in shares, of which the vendors take one half (in addition to 70,000 rupees in cash) and the other half, issued to the public, was applied for in advance. There are 800 acres of land, of which 230 acres were planted with Pará rubber in 1902; 200 acres in 1904; and 70 acres this year, and the remainder is reported to be adapted for rubber planting. The shares offered to the public will provide the cash part purchase price and the upkeep of the estate until 1908, when the yield of rubber is expected to make the estate self sustaining. In addition to the rubber above mentioned, the equivalent of 50 acres of *Ficus elastica* has been planted along the edge of the river.

AMERICAN CONSUMPTION OF INDIA-RUBBER IN 1905.

THE year just closed witnessed the largest importation of crude rubber into the United States ever known.

This, by the way, is getting to be a regular story, only one year in the last decade having failed to show an increase in arrivals. The increase in arrivals for 1905 was a round 1000 tons, but as the stocks were slightly higher at the end than at the beginning of the year, the deliveries to manufacturers showed a somewhat smaller increase. The world's production gained, but from the way that prices were maintained throughout the year it is evident both that actual consumption has been active, and that the trade sees no prospect of an early change in the conditions which have prevailed for the past two years or more.

Comparative statement of prices of fine Pará rubber in New York and Liverpool, for several years past :

YEARS.	New York.	Liverpool.
1899.....	91 <i>6a</i> 1.10	3.10 <i>6a</i> 4. 7 1/4
1900.....	83 <i>6a</i> 1.11 1/2	3. 8 1/2 <i>6a</i> 4. 9
1901.....	70 <i>6a</i> .95	3.4 <i>6a</i> 3.11 1/2
1902.....	66 <i>6a</i> .92	2.10 <i>6a</i> 3. 9 1/2
1903.....	78 <i>6a</i> 1.13	3. 6 1/4 <i>6a</i> 4. 8
1904.....	89 <i>6a</i> 1.32	3.10 3/4 <i>6a</i> 5. 6
1905.....	1.13 <i>6a</i> 1.35	4.10 1/4 <i>6a</i> 5. 8 3/4

The next table analyzes the imports of crude rubber into the United States by grades, the figures denoting tons :

YEARS.	Fine Para.	Coarse Para.	* Cen- trals.	African and E. I.	Total.
1899.....	8,622	3,876	3,440	7,157	23,095
1900.....	8,079	3,906	3,020	5,403	20,408
1901.....	9,394	3,835	2,927	7,139	23,295
1902.....	8,666	4,235	2,588	6,353	21,842
1903.....	9,325	4,609	3,040	7,786	24,760
1904.....	9,526	4,841	4,052	9,204	27,623
1905.....	8,973	4,908	4,475	10,279	28,635

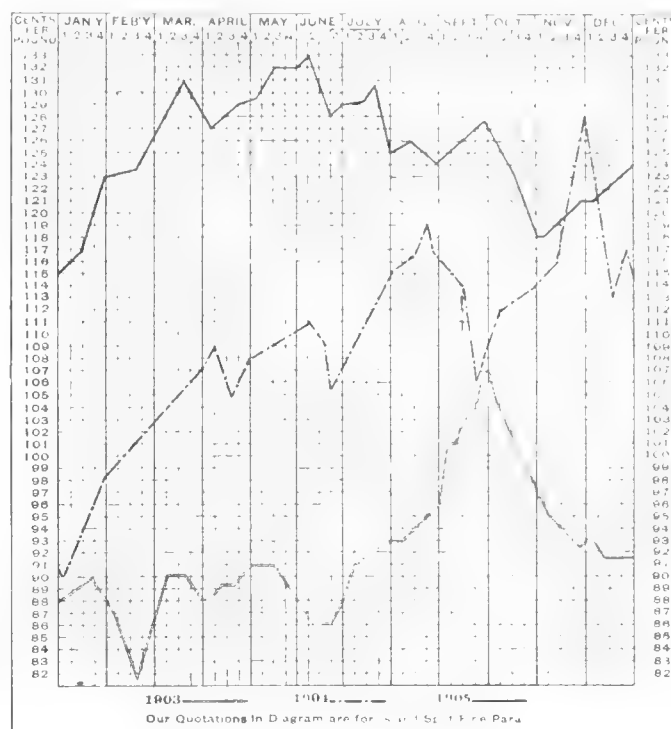
[* Including Caucho and Pernambuco.]

The figures in the next column, showing the extent of the world's visible supplies of rubber on January 1, 1906, have been derived from the Messrs. Morse's tables, though they are given on this page in pounds instead of tons :

Stocks in the United States.....	pounds	1,291,980
Pará grades.....	235,000	
Central American and Caucho.....	167,100	
African and East Indian.....	7,9280	
Stocks in Europe.....	7,929,600	
Pará grades.....	2,036,160	
All other.....	5,893,440	
Stocks Pará grades at Pará and afloat.....	4,345,600	
Total.....	13,477,180	
Total, January 1, 1904.....	11,323,200	
Total, January 1, 1903.....	12,221,440	
Total, January 1, 1902.....	15,028,160	
Total, January 1, 1901.....	17,117,320	
Total, January 1, 1900.....	10,251,480	

RANGE OF RUBBER PRICES FOR THREE YEARS.

DIAGRAM (copyrighted 1905 by Henry A. Gould) indicating spot prices at New York of Islands fine Para rubber.



The topmost line relates to prices in 1905, the middle line 1904, and lowest line in 1903.

DR. PAUL PREUSS, the distinguished German botanist, director of the colonial botanical garden at Victoria (Kamerun), and the discoverer of the *Kickxia* species as a source of rubber, has recently been looking after the agricultural affairs of New Guinea. On his way home he visited the Federated Malay States, and in company with Mr. J. B. Carruthers, director of agriculture there, inspected the experimental gardens and some typical rubber plantations. The *Malay Mail* says that while Dr. Preuss was impressed with the splendid growth and health of the Pará rubber (*Hevea*) trees, he was not inclined to waver in his confidence in *Kickxia* rubber as suited for cultivation.

CONSUMPTION OF INDIA-RUBBER BY THE UNITED STATES AND CANADA (IN TONS).

[From the Annual Statistical Summary of ALBERT T. MORSE & Co., brokers, New York.]

DETAILS.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
Imports to United States.....	16,152	15,347	16,420	14,643	16,182	14,333	17,671	18,620	23,095	20,468	23,208	21,842	24,760	27,623	28,635
Exports to Europe.....	982	491	714	391	324	500	250	150	300	450	680	430	490	274	357
Net Imports.....	15,170	14,856	15,706	14,252	15,858	13,833	17,421	18,470	22,795	20,018	22,528	21,412	24,270	27,349	28,278
Add Stock January 1.....	1,260	1,086	1,217	1,037	1,420	555	441	744	501	712	1,118	1,370	1,400	250	308
Aggregating.....	10,430	15,942	16,923	15,289	17,278	14,391	18,062	19,214	23,386	20,730	23,720	22,811	24,601	27,605	28,586
Less Stock end of year.....	1,086	1,217	1,037	1,420	558	641	744	501	712	1,118	1,370	1,400	250	250	537
Deliveries to Manufacturers.....	15,344	14,725	15,886	13,869	16,720	13,750	17,318	18,713	22,674	19,612	22,350	21,411	24,350	27,350	28,049

A RUBBER ROLLING MACHINE.

THERE is illustrated on this page the latest (1905) pattern of the rubber rolling and washing machine manufactured by The Federated Engineering Co., Limited, of Kuala Lumpur, Federated Malay States. It was in 1903 that this firm first exhibited an experimental machine for the treatment of freshly coagulated rubber latex, at the yearly Agricultural show at Kuala Lumpur, where orders for several were placed by the rubber planters in attendance, as a result of its successful making of "crêpe" rubber. The machine was favorably reported on by Mr. P. J. Burgess—now, by the way, rubber expert for the Malay States—since which time various improvements have been developed by the makers of the machine.

The original specimen was a washing machine, but there is now offered also a rolling machine of practically similar design. The process of making the "crêpe" may be entirely carried out on the washing machine, although it is stated that a much finer sample is obtained by passing the washed rubber through the rolling machine, and this practice is being adopted.

The machine takes in freshly coagulated latex, and turns out thin, chewed-looking sheets called crêpe rubber, thoroughly washed and clean. The actual coagulation is not mechanical, but the latex is poured into a tank, curdled with acid, sliced and fed directly into the machine.

The manufacturers of the machines state:

The action of the rollers on the freshly coagulated latex is to entirely remove all albumen, and other impurities which remain in the rubber (to its consequent detriment) if made into biscuits.

The crêpe after being treated on the two machines has a close, fine, even texture and is extremely thin, and can thus be dried, without the aid of an artificial drying house, in about three days, and is considerably easier to pack for shipment than any in the biscuit form.

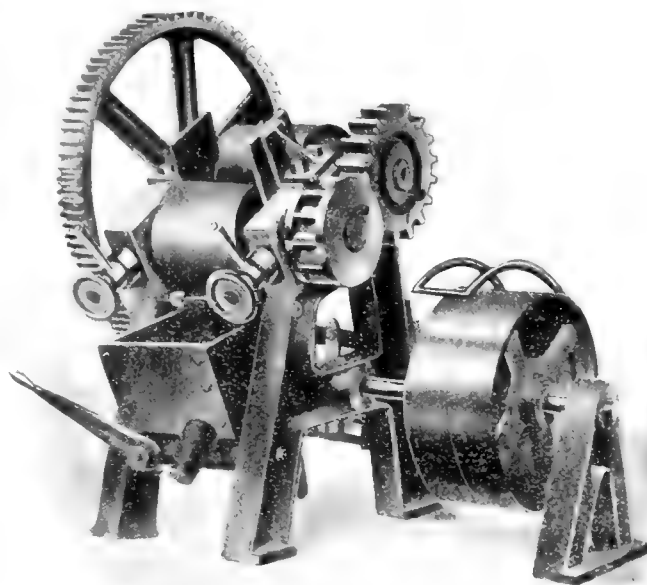
The machines working together will treat at the very least 100 pounds of dried rubber per hour or singly 50 pounds per hour, and each machine requires from 5 to 8 brake horse power to drive it; only one man is required to feed a machine, and the saving effected over the hand made biscuit process is obvious.

By the manufacture of crêpe rubber the disadvantages of having a large number of coagulating dishes and trays are obviated as the latex is poured into one large receptacle and there coagulated in bulk by the addition of acetic acid, tannic acid, or other coagulating agent, after which it is cut into slabs and fed into the washing machine.

In England some protest has been heard against the importation of washed rubber, since the manufacturers have been accustomed to washing in the factory. If the Federated

Company's machine could turn out a product clean enough for immediate mastication and mixing, there would be undoubted economies in freight, in the removal of sources of decay, and in the carrying on the whole process of coagulation, washing and sheeting at one operation by steam power, while the latex curds are fresh and soft, and more readily cleansed. There is a possible economy to the trade, also, in being able to calculate prices more accurately on the basis of a pure, dry article. The manufacturers naturally do not want rubber handled any more than is necessary, recognizing the loss of elasticity, and the increase in adhesiveness which results from too much mastication and kneading; but if it can be shown that the proper time to wash rubber is when it is freshly coagulated, and the curds are light and spongy, the plantation washing is to be recommended, as enabling the maximum amount of nerve to be retained in the vulcanized products.

The manufacturers announce that they have also in hand a mechanical coagulating device, still in an experimental stage, though they expect soon to have it on the market. It appears that the highest price yet attained in London for any plantation rubber was for crêpe prepared on these machines. For further information regarding crêpe rubber and its preparation, the reader is referred to an article in THE INDIA RUBBER WORLD, January 1, 1906—pages 107-112.



RUBBER ROLLING MACHINE.

FAR EASTERN RUBBER COMPANIES.

A BOOK entitled "Rubber Producing Companies Having Properties in the Malay Peninsula

and Ceylon," and issued by Gow, Wilson & Stanton, Limited (London), is likely to give those who have not kept themselves well informed something of a surprise in regard to the extent to which the English public have become interested in rubber planting. It is a directory of companies, containing such details as an investor naturally would want. From the book we compile some figures showing that 20 companies having estates in Ceylon have outstanding £1,806,383 [= \$9,031,915] in shares, and the capital of 11 of the companies, amounting to £1,737,483, is reported fully paid. Most of these, however, are long established tea companies, but they are also largely interested in rubber, some having their tea planted throughout with rubber, in addition to large areas in rubber alone. Fifteen companies having estates on the Malay peninsula, having a total authorized capital of £658,000 [= \$3,290,000], have shares outstanding to the extent of £564,520, of which £258,743 are held by vendors of numerous rubber plantations acquired by the various companies, and £305,777 have been subscribed.

OBITUARY.

JOHN L. CHAPMAN.

THE rubber trade in Trenton, New Jersey, and indeed the jobbing trade in many parts of the United States, are sincerely mourning the death of Mr. John L. Chapman, who for many years was a well known figure in mechanical rubber circles, his introduction to the rubber trade dating back some twenty-five years, when he entered the employ of The Star Rubber Co., (Trenton), at the time when the late Thomas A. Bell was the controlling factor in that business. Later



he was employed by the Empire Rubber Co., and later still carried a line of goods for the Home Rubber Co. He was a member of the selling force of the Hero Fruit Jar Co. (Philadelphia) for many years, and continued his connection with that company up to the time of his death. He, however, through his wide acquaintance was able to

hold much of his trade in mechanical rubber goods, and never lost his interest in that line of work.

Mr. Chapman was born in Philadelphia 53 years ago, and had been a resident of Trenton for some 30 years. About a year ago he was forced to retire temporarily from business, being attacked by Bright's disease. He apparently recovered, however, and went again on the road, but falling ill in Chicago, was obliged to relinquish work and soon after passed away. During his years of travel Mr. Chapman made many warm friends, and particularly in his home city, Trenton, was he greatly esteemed.

The funeral, which took place in Trenton on January 11, was attended by prominent manufacturers, resident in Trenton, Philadelphia, New York, and the West. The services were conducted by the Rev. A. J. Weisley, the Rev. Dr. Samuel S. Aldiford, of Trenton, and the Rev. Dr. James Boyle, of Philadelphia. The interment was at Riverview Cemetery, Trenton.

H. G. TIPPET.

The death of Henry Grendon Tippet will cause widespread regret in the rubber trade, because he was well-known in the United States as well as in Great Britain. Mr. Tippet's retirement from business with the idea of enjoying a well earned leisure was reported in THE INDIA RUBBER WORLD of December 1. On December 23 his death occurred at his country seat, the "Cleeve," Ross, Herefordshire, England.

Mr. Tippet was born in Stanley, New Brunswick, Canada, December 15, 1843, his father being a clergyman of the Church of England. At an early age he went to England,

his father's home, and as a young man entered the employ of a large business house in Manchester. He was soon transferred by the firm to one of their India houses, and remained



in India for about 15 years. Returning to England he married and, entering the rubber field, soon became chairman (or, as the Americans say, president) of The Liverpool Rubber Co., Limited. Under his careful and wise management the company became one of the best known rubber firms in the British empire, and their product was well

known through its many good qualities. He worked likewise for the benefit of the trade as a whole, as shown by his active connection with the India-Rubber Manufacturers' Association.

Mr. Tippet had visited the United States several times. He was a man of deep and sincere religious convictions, a leader in many good works, a thorough business man, and the father of a charming family. He leaves a wife, a daughter, and five sons, the oldest son being at present located in the United States, while the second son is a lieutenant in the English royal navy.

W. H. ACKEN.

WILLIAM H. ACKEN, president of the New York Rubber Co. died on Sunday evening, January 28, at his residence, No. 29 West Eighty-second street, New York, of a complication of diseases, after an illness of about two weeks. Mr. Acken was in his seventy-fourth year, having been born January 11, 1833, at New Brunswick, New Jersey. He was



graduated from Rutgers College in 1851, at the age of 18. In 1858 he became connected with the New York Rubber Co., then in its seventh year, and remained with it continuously until the end of his life. In 1868 he became treasurer, and in 1871 was elected also a trustee of the company, and in 1883 he succeeded to the

presidency. About 20 years ago Mr. Acken, who formerly lived in New Brunswick, moved to New York city.

Mr. Acken was regular in attendance at the offices of the company in Reade street, which have remained in one position for an unusual long period, considering how frequently business offices change their location. The office staff was seldom changed except by the death of a member. Twelve years ago THE INDIA RUBBER WORLD, reporting a dinner tendered by the officers and staff, mentioned that the combined service in the company of the thirteen persons present was 324 years—an average practically of 25 years—and several of those named are still connected with the company. In addition to this business connection, Mr. Acken was a director in the Norfolk and New Brunswick Hosiery Co., in the foundation of which, a half century ago, a number of leading rubber men were interested.

Mr. Acken married Mary S. Letson, daughter of the late John Letson, of New Brunswick, who for many years was prominent in the rubber trade. The death of Mrs. Acken occurred May 3, 1902. One son survives, Mr. John Acken, treasurer of the New York Rubber Co., and a daughter. Funeral services were held at the home on the morning of January 31, and the interment was in the family lot at Kensico, New York, where, about a year ago, Mr. Acken built a fine mausoleum.

Born of Revolutionary stock, part Quaker and Scotch, Mr. Acken combined rare and lovable qualities. A lover of peace, he would fight for his friends and for the right, with untiring loyalty. Quick in his decision, generous, the soul of old fashioned courtesy, his like is too rarely seen. The business that he controlled and administered so successfully was run on absolutely straight business lines, but with a regard for the feelings of all the employés that it was like a family where there was no unrest and no bickerings. In the trade his word was his bond, and he expected others to deal with him as he did with them. And they usually did. His influence for fair dealing was most marked and the trade suffers much in his death.

THE CONGO RUBBER SITUATION.

IN their annual review of the Antwerp rubber market for 1905—the statistical details of which appear on the market pages of this Journal—Messrs. Grisar & Co., brokers, say:

Imports of Caoutchouc in this market have remained essentially the same as last year. Total exports from the Congo basin have been slightly less than during the preceding year. A noteworthy increase in the output of Caoutchouc gathered is hardly expected at this time, and the present output must be considered to represent the mean figure of the annual production of the Congo Free State.

The severe measures proclaimed by the State, for the purpose of stopping the abuses which over exploitation would not fail to produce, and to prevent the impoverishment of the forests belonging to the domain, have, in fact, tended to diminish exports to a normal but regular figure.

Producers have especially directed their efforts towards improving the quality of the gathered product, and in this respect new and real progress has been made on the Congo. Experiments in treating pitchy Caoutchouc with talcum do not appear to have produced the expected results. This harmless substance, which however, has no effect on Caoutchouc, has merely given a less unfavor-

able appearance to the pitchy lots, without contributing to their improvement in any respect. We therefore advise the discontinuation of this practice, which, while doing no harm, means simply a loss of time and money.

The finest grades of Caoutchouc are still coming from the Kasai, Equateur, Lomami, Uelé, and Mongala districts.

Planting is going on gradually and regularly, in conformity with the order of September 22, 1904, of which we had occasion to speak on our last annual review. Estimating from the aggregate of the crops gathered in 1904, there have been planted out during the past year about 2,450,000 Caoutchouc trees and lianes, one half of which were planted by the employés of the State and the remaining one half by companies and private persons established on the Congo. This brings up the amount of planting done in accordance with the aforesaid legal provisions, to approximately 12,500,000 Caoutchouc producing plants.

Even the oldest of these cultivations can hardly be made productive until several years shall have elapsed. Experiments have already been attempted with plants of various ages, for the purpose of determining the time at which the different species cultivated may be worked under paying conditions, but results have not been sufficiently conclusive to make it possible to draw conclusions from them for the future.

The import of new kinds of Caoutchouc continues to show a large development in our market, as proved by our statistics. Sales have at all times been easy and regular, at paying rates.

Concerning the new kinds in which the greatest interest was shown, we shall mention in the front rank those species of Caoutchouc originating from the methodically managed plantations in Ceylon and in the Federated Malay States, where the cultivation is growing to considerable dimensions, as well as from Bahia, in Brazil. These gums, thanks to their absolute purity and excellent quality, have met with an extremely favorable reception from purchasers, and have brought prices largely exceeding those paid for Pará. These cultivations, which have been for several years past a subject of extended investigations and essays, appear to have solved the question which has given rise to such numerous controversies, viz.: that of the rational planting of Caoutchouc producing plants.

As, moreover the results of this industry, from the economic standpoint, appear to be brilliant, a considerable future development may well be foretold for them. As the present production still remains insufficient to meet the industrial demand, this new source of supply will be highly appreciated.

The world's production of Caoutchouc may at the present time be estimated at about 75 000 tons. During the year considered in this review, prices have continued to advance, and new supplies have been quickly taken up as they gradually came on the market.

From the commencement of the year, quotations already began to show an advance of about 8 per cent. With the exception of a slight lull during the summer, which usually occurs on account of the heated term, prices have advanced until the end of the year, closing with a mean advance of about thirteen per cent. when compared with those at the end of December, 1904.

THE Canadian commercial agent at Melbourne reports: "The orders recently obtained in Victoria, South Australia, and Tasmania for Canadian rubbers and sand shoes have been of a very satisfactory nature in volume. This business is likely to increase to large proportions, which result is attributable to the excellent quality of the goods and the improved representation the line is receiving." With regard to mechanical rubber goods, the report says: "There is always a demand for standard qualities of British make, which were first introduced, and for many years practically held the trade." Of late, however, German competition has been felt.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values of exports of manufactures of India-rubber and Gutta-percha, for the month of November, 1905, and for the first eleven months of five calendar years:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber	TOTAL.
November, 1905 ..	\$ 108,144	\$ 126,326	\$ 247,321	\$ 482,791
January-October ..	958,660	1,059,094	2,371,295	4,388,959
Total,	\$1,066,804	\$1,185,420	\$2,619,326	\$4,871,750
Total, 1904....	808,771	1,099,030	2,149,273	4,057,074
Total, 1903....	777,304	890,835	2,276,179	3,944,375
Total, 1902....	671,906	158,085	1,825,127	3,155,118
Total, 1901....	517,476	512,333	1,603,047	2,992,856

FOREIGN RUBBER GOODS TRADE OF CANADA.

CANADIAN imports of India-rubber and Gutta-percha manufacturers, for the fiscal year ended June 30, 1905, are officially stated to have been in value as follows:

IMPORTS.	United States.	Great Britain.	Other Countries.	Total Value.	Duties Collected.
Boots and shoes ...	\$132,217	\$ 207	\$ 285	\$132,709	\$31,232.58
Belting	60,885	722	...	61,607	15,341.60
Clothing and water- proof cloth....	25,053	111,955	186	137,194	37,689.95
Hose	58,277	1,331	...	59,608	18,038.69
Packing and mats..	58,119	1,328	...	59,447	20,088.03
All other.....	299,787	49,438	25,600	374,825	91,215.67
Total.....	\$634,422	\$164,996	\$26,071	\$825,390	\$213,606.52
Total, 1903-04	617,471	334,646	26,098	978,215	250,210.51
Total, 1902-03.....	573,421	446,811	25,579	1,045,811	253,873.15
Total, 1901-02.....	525,218	217,812	31,999	775,029	201,698.64
Total, 1900-01.....	434,570	154,044	21,738	611,272	163,012.44

The share of Germany in this trade has declined from \$18,877 to \$18,825, while Austria has increased from \$950 to \$3,403. The share of France declined from \$4638 to \$3226, and Russia's from \$1179 to \$205.

There may also be noted the following imports, not classified by the customs as "rubber goods," but having a relation to the industry:

IMPORTS.	United States.	Great Britain.	Other Countries.	Total Value.	Duties Collected.
Webbing, elastic and non elastic.	\$110,828	\$70,233	\$2784	\$183,835	\$32,476.81
Stockinettes for rubber footwear	52,185	14,619	...	66,804	9,363.85
Duck for rubber belting and hose	88,433	634	...	89,067	free
Rubber thread....	5,008	...	...	5,008	free

EXPORTS OF CANADIAN RUBBER GOODS.

To—	Value.	To—	Value.	To—	Value.
Great Britain	\$46,500	British Guiana	\$1,571	Argentina..	\$ 137
Australia....	49,575	Brazil.....	4,734		
Newfoundl'd	17,685	Chili.....	1,242	Total.	\$170,359
New Zealand	30,789	China.....	750	Total, 1904	128,067
Italy.....	9,659	British Africa.	285	Total, 1903	142,891
United States	6,688	B. W. Indies..	227	Total, 1902	322,572
Japan.....	225	Denmark.....	60	Total, 1901	151,656
Turkey.....	16	Cuba.....	216		

IMPORTS OF RAW MATERIALS.

CLASSIFICATION.	Pounds.	Value.
Gutta-percha.....	112	\$ 98
India-rubber.....	2,810 238	2,458,386
Rubber recovered; rubber substitute; hard rubber in sheets	2,158,846	230,439
Rubber powdered and rubber waste.....	505,715	34,360
Total, 1904-05.....	5,474,911	\$2,723,273
Total, 1903-04.....	5,753,288	2,512,168
Total, 1902-03.....	5,404,124	1,820,054

THE TEXTILE GOODS MARKET.

THE cotton duck situation at this writing shows extreme strength and a decidedly buoyant tendency, the estimated relation of supply and demand, indicating well sustained, if not advancing prices. Since our last report it has been practically conceded that the crop will not exceed 10,750,000 bales, the government report showing that there will be an increase of 750,000 bales over previous estimates.

The mechanical rubber goods trade have contracted for the major part of their season's supply of hose and belting ducks at a price which is quite an advance over that paid last season. The present price of regular hose and belting ducks is 22½ cents, which figure will probably prevail through the season, unless there should be an advance in cotton, in which event the price of ducks will naturally be increased.

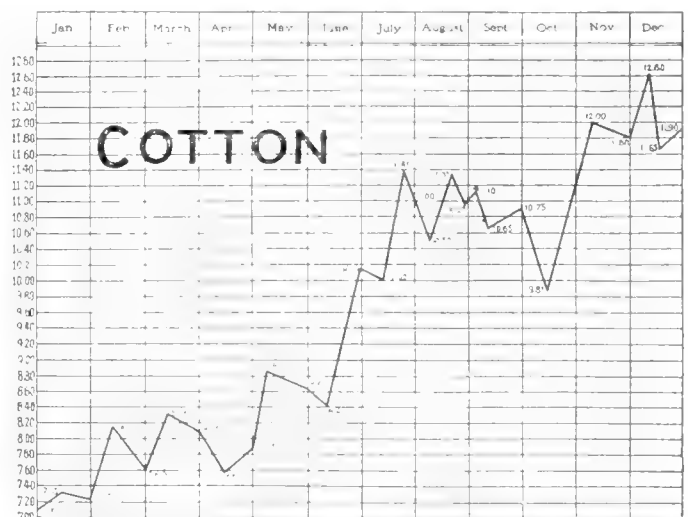
The mills are virtually sold to the limit for the year and are finding it extremely difficult to meet the present demand. It is claimed that most of the prominent rubber trade buyers who have contracted for what would ordinarily have been a year's supply, will, at the present rate of consumption, use their stocks in two-thirds of that time.

The rubber shoe trade is buying actively and the demand shows no indication of abatement. The speculative market shows a strong and increasing bull tendency, the most conspicuous bear of the season having joined the bull forces.

Spot cotton (at this writing) is quotable at 12.25 as against 7.25 for corresponding date last year. There is such a paucity of spot goods that buyers are not standing on price, but readily pay full asking values and are willing to anticipate on the same basis, provided they can effect the acceptance of orders.

At a recent meeting of the Planters' Association held in New Orleans, it was voted to hold the balance of their cotton at 15 cents. A competent authority estimates that there can be no break in cotton before June at the earliest and then only in deference to large acreage and very favorable weather conditions.

The chart below, illustrating the range of cotton prices during 1905, is reproduced from the *New York Times*, through the courtesy of its editor:



RANGE OF COTTON PRICES, 1905

THE RUBBER TRADE AT AKRON.

BY A RESIDENT CORRESPONDENT.

THE Akron rubber manufacturers have joined The Fisk Rubber Co. (Chicopee Falls, Massachusetts) in an effort to secure a reduction of freight rates on rubber, and especially on rubber tires. Besides claiming that the railroad companies are charging an excessive rate through a wrong classification, not only of tires, but of many other rubber goods, the manufacturers desire to get changed the rule which prevented single tube tires from being shipped while inflated.

At the annual meeting of the Swinehart Clincher Tire and Rubber Co., on January 8, James A. Swinehart was reelected president. The other officers are practically the same as before, B. C. Swinehart being elected secretary, H. F. Siegrist treasurer, and William J. Frank vice president. These officers, with William Byrider, Frank E. Ream, and M. S. Rudgers constitute the directors. The usual dividend was declared.

The annual election of The B. F. Goodrich Co. was held January 10, with the same board of directors and officers elected as before, with the exception that Charles B. Raymond succeeded R. P. Marvin as secretary, Mr. Marvin having resigned some time ago on account of ill health. The officers elected are: Colonel George T. Perkins, president; B. G. Work, vice president; George W. Crouse, second vice president; C. B. Raymond, secretary; W. A. Folger, treasurer; F. H. Mason, general works manager; W. A. Means, assistant treasurer; E. C. Shaw, general superintendent; C. C. Goodrich, assistant general superintendent; H. E. Raymond, general sales manager.

President Swinehart, of the Swinehart Clincher Tire and Rubber Co., stated to THE INDIA RUBBER WORLD correspondent that the action commenced by his company in the United States court in Cleveland on January 10 was only the first of a series that will be commenced against the Motz Clincher Tire and Rubber Co. The plaintiff claims in this first suit that the Motz company has infringed upon the concave tire and the beaded thread patented by the Swinehart company, and damages are asked. Mr. Swinehart stated that other patents owned by his company protecting their tires have been infringed upon, and that two or three other suits will follow.

George A. Ludington has resigned as superintendent of the plant of the Firestone Tire and Rubber Co. to accept a similar position with the G & J Tire Co., (Indianapolis, Indiana). Mr. Ludington was with the Firestone company as superintendent for three years, previous to which time he was superintendent of the Morgan & Wright plant at Chicago for ten years. Mr. Ludington is the inventor and patentee of a continuous length process of manufacturing solid rubber tires, and though he experimented on the plan while in Chicago, it was in this city that the process was perfected. The patent was assigned to the Firestone Tire and Rubber Co., and has been the means of quite a saving to manufacturers in that it prevents loss by manufacturing tires in certain sizes to suit different wheels.

The annual meeting of the Aladdin Rubber Co. resulted in the old board of directors being chosen again, as follows: James Christy, Will Christy, John Connor, Cassius M. Gilbert, C. S. Heller. The officers were reelected as follows:

James Christy, president; Cassius M. Gilbert, secretary and treasurer; Sidney Connor, assistant secretary and treasurer; C. S. Heller, superintendent. The company expect to begin reclaiming rubber by the Heller system by February 15. The boiler for the new plant at Barberton has been installed, and only several small machines are still lacking.

A gratifying evidence of the healthy situation of the bicycle trade was found in the receipt the first of the month by the Diamond Rubber Co. of an order for a carload lot of bicycle tires, from the Pacific Coast Rubber Co., of Tacoma, Washington, and Portland, Oregon. This is said to be the first carload lot order for bicycle tires ever sent to the Pacific coast, and the manufacturers will make the shipment with the car bedecked with banners and gay colors. The Diamond company have been doing a large business in bicycle tires, and as achievement has been their argument, the order is taken as a most encouraging sign for the trade in general.

The rubber industry has built up another here that is auxiliary to it, and is becoming an important factor in the commercial world—the manufacture of machinery for the manufacture of rubber goods. Rubber goods have taken on such a variety of forms and uses, that it has become necessary to manufacture numerous styles of molds. The Williams Foundry and Machine Co. is one of the later manufacturers of rubber machinery. It has found it necessary to extend its plant, especially on account of the demand for automobile and bicycle tire molds. The company has installed a new 42 inch lathe, weighing 12 tons, to be used in finishing molds, and before that a 26 ton planer.

On account of present lack of facilities and the large opportunities for business, the Adamson Foundry and Machine Co. are looking for a new location, on which to erect a more extensive plant. The main reason of Mr. Adamson, the owner of the works, for establishing a new factory, is that he has a large market for rubber machinery, and is desirous of giving his time more exclusively to that work, and of manufacturing heavy rubber machinery to a larger extent. Hitherto the output of the plant has been confined mainly to small machines. The company lately supplied the Firestone Tire and Rubber Co. with six hydraulic presses, and have since received an order from the same company for a large accumulator.

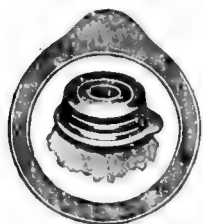
A pneumatic baseball is the latest novelty in rubber manufacturing. It naturally follows the introduction of the pneumatic golf ball, which sprang into such favor last season. The principle of construction is practically the same, except that the baseball is larger, and that it has a leather covering similar to the regulation baseball. The rubber interior of the baseball is wrapped with thread and on top of the thread the leather is placed. The pneumatic and regulation baseballs are so much alike in appearance that such an expert as "Napoleon" Lajoie, manager of the Cleveland "Nationals," and Pitcher Bernard, of the same club, could not tell the difference after practicing for two hours with both kinds.

At the annual meeting of the Akron Rubber Co. made up practically of the same shareholders of The B. F. Goodrich Co. on January 10, the old officers were reelected: Colonel George T. Perkins, president; George W. Crouse, vice president; C. B. Raymond, secretary; B. G. Work, treasurer; F. H. Mason, general superintendent.

NEW GOODS AND SPECIALTIES IN RUBBER.

COLDREN'S LIPPED JAR RINGS.

THE illustration shown herewith relates to a lipped jar ring, for use on the regular and mammoth size Mason fruit jars, showing both the form of the ring and the use for which it is designed. As will readily be seen,

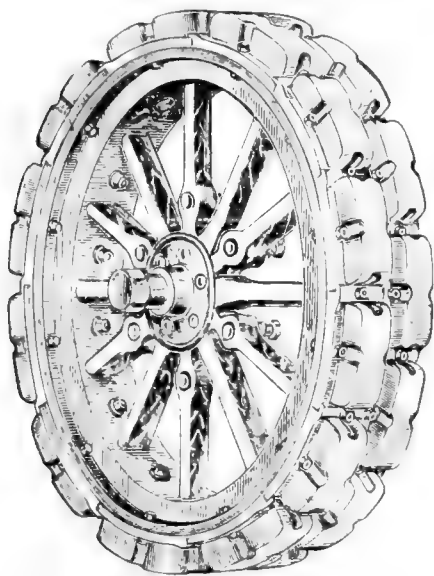


such a ring is designed to facilitate the removal of the jar cap, which is not always the easiest matter in the world. The same company manufacture a new patented cap for Mason jars, which is referred to as having several advantages as compared with the old style cap, not the least of which is the ease with which

it may be cleaned. [The Coldren Rubber Co., Lebanon, Pennsylvania.]

THE "CLINCHER" BLOCK TIRE (CHARY'S PATENT).

ONE notable recent improvement in tires is the "clincher" block tire. This is designed especially for



motor omnibuses and heavy commercial work. The tire is composed of separate rubber blocks, fixed securely by interlocking steel frames, bolted to the wheel rim. Among the distinct advantages are the absence of side-slip and the ease of repair. The side-slip is prevented by the arrangement of the blocks in two parallel rows, with the spaces between the ends of any two sections in the same row

opposite the adjacent section in the same row. As to repairs, any block damaged can be replaced in two or three minutes at a cost hardly worth reckoning. Its economy in wear is shown in the fact that the recorded wear amounts to only one-fifth of one inch in 4370 miles of running under a full load of five or six tons. Another feature is the avoidance of heating. The separation of the blocks prevents the overheating which takes place with endless tires, causing disintegration and soon rendering them useless. The stress is reduced to a minimum by the division of the mass of rubber into separate blocks, allowing the heat generated to get away by radiation and conduction. [North British Rubber Co. Limited, Edinburgh, Scotland].

MULTICOLOR RUBBER TILING BLOCKS.

INTERLOCKING tiling of rubber has long been made in a variety of colors and in beautiful designs, but the practice heretofore has been for each separate block to be of one color. It is interesting, therefore, to note that a departure

from that rule has been successfully inaugurated by the United Berlin-Frankfort India Rubber Co., of Germany. After considerable experimenting, they have succeeded in producing individual blocks, each one of which contains several colors, so blended that the effect is that of veined and colored marble. In order to see how the colors would stand under vulcanization, blocks were cured till the rubber was practically vulcanite, and there was no diminution in the brightness of the coloring.

GOODRICH ADHESIVE DAM.

THE illustration relates to a very convenient and useful outfit, consisting of a roll of adhesive dam packed with one bottle of aseptic gum, the whole being placed in a round tin



case. The dam is put up in a roll, 7 inches wide and 36 inches long. The adhesive surface being covered with tin-foil. [The B. F. Goodrich Co., Akron, Ohio.]

AN OVERSHOE PROTECTOR.

CHARLES W. LINTHICUM, of the Baltimore rubber shoe trade is the patentee of a device intended to prevent snow,



water or mud, from getting over the top edge and into the interior of an overshoe. It is designed especially for a combination boot and overshoe such as is commonly used by lumbermen and generally in cold countries. The "protector" is so constructed and of such material that it adjusts itself to various sizes and

thicknesses of boots to form a tight joint between protector and shoe below the upper edge of shoe. Comparatively low shoes may be used in combination with a felt boot and the same advantage obtained as in a high overshoe and felt boot combined, thus reducing the cost of the combination boot and overshoe as a whole. The protector being made of yielding soft material, in combination with an elastic goring, it conforms to the shape and different positions of the boot in front, upon the back, and upon the sides.

THE NEW "TAURIL" STEAM PACKING.

THERE is now being introduced into the United States a new packing called "Tauril," designed especially for resisting high pressure steam. It is light, tough, and acid proof, and resists steam temperatures of 572° F. or more. Strength tests made with it show that it will bear a crushing strain of 32,950 pounds, and a tensile strain of 6863 pounds to the square inch. It is claimed that it requires

over 2000 atmospheres to disintegrate this packing, which is a far higher steam pressure than is ever used in practice. It is made in sheets of any thickness, down to $\frac{1}{32}$ of an inch, and is especially recommended for motor car joints. [Ungarische Gummiwaren-Fabriks, A.-G. (Hungarian Rubber Goods Factory, Limited) Budapest.]

READ'S HORSE TAIL TIE.

THE sale is reported within six months of over 500,000 rubber lined horse tail ties, the design of which is readily indicated in the accompanying illustration. It is made without hinge or buckle, or leather strap to stretch, shrink, or break. Nor are there any metal teeth to deaden or cut the hair. It is quickly applied or removed with the gloves on if desired. It is made of special oil tempered spring steel, heavily nickled, and lined with corrugated rubber. [O. B. Read Manufacturing Co., Troy, New York.]



NEW TRADE PUBLICATIONS.

THE HARTFORD RUBBER WORKS Co. have issued many good catalogues, but hitherto they have been devoted chiefly to rubber tires. Now comes a bulky but attractive catalogue of their Mechanical Rubber Goods—a department which has been developed to important proportions, without detracting from their continued attention to tires. The catalogue opens with the subject of Hose, treated very fully, in connection with the company's great variety of products in this line—air brake, steam, air drill, garden, conducting, brewer's, armored, acid, gas, pneumatic tool, fire department, and so on—calling for 43 illustrations. The list embraces also belting, packing, gaskets, valves, mats and matting, heels and many molded specialties, and also tire and insulating tape. [6½"×8½". 128 pages.]

GORHAM Rubber Co. (San Francisco) have issued a price list of Belting, Packing, and Hose, embracing the products of the Gorham factory, with the addition of brass goods and other accessories. The Gorham company have been active in developing an export trade, and a page view is given of their store at Osaka, Japan. [4½"×6¾". 72 pages.]

THE NORTH BRITISH RUBBER CO., LIMITED (Edinburgh), now nearing the fiftieth year of their manufacture of India-rubber boots and shoes, issue a catalogue of such goods, which is most effectively illustrated. The cuts are printed in colors to indicate as nearly as possible the appearance of the goods. [5½"×8½". 24 pages.]

THE UNITED STATES RUBBER CO.'s advertising department issues, for the season of 1906, the customary series of illustrated and priced catalogues of Rubber Boots and Shoes, a separate one devoted to the products of each of the subsidiary companies. The catalogues are uniform in size of page, but not otherwise. All are attractively got up, outside and inside, and are models of good catalogue making in their field. The catalogues received are those of the American Rubber Co., Joseph Banigan Rubber Co., Boston Rubber Shoe Co., L. Candee & Co., Goodyear's India-Rubber Glove

Mfg. Co., Goodyear's Metallic Rubber Shoe [Wales-Goodyear] Co., Jersey Rubber Co., Lycoming Rubber Co., Meyer Rubber Co., (including also the Jersey Co. brands), and Woonsocket Rubber Co. The new prices will receive further attention on another page.

HOOD RUBBER CO. (Boston) issued under date of January 2 their catalogue of Rubber Boots and Shoes, illustrated with cuts of their leading styles. The production of this company has become not only very varied, but also very large, the capacity being mentioned as 48,000 pairs per day. [3¼"×6½". 64 pages.]

BANNER RUBBER CO. (St. Louis) issue a catalogue of Rubber Boots and Shoes which, in addition to describing their output, gives full details of their selling arrangements, as they deal with retailers. [9¾"×4½". 46 pages.]

ALSO RECEIVED.

JENKINS BROTHERS (New York).—Extra Heavy Valves. 12 pages.

The St. John Rubber Tire Co. No. 116 Broad street, New York.) —St. John Non-Puncturable Solid Rubber Cushioned Automobile Tire. 12 pages.

ADDITIONAL TRADE NOTES.

THE ELKHART RUBBER WORKS are a new concern established at Elkhart, Indiana, for the manufacture of mechanical rubber goods and molded specialties.

=A report which currently in the month at the rubber factory of L. Candee & Co., (New Haven, Connecticut) would be removed to Naugatuck, is authoratively denied.

=During the 25 years the Hohmann & Maurer Manufacturing Co. (Rochester, N. Y.) have been making thermometers for industrial purposes, they have several times been obliged to move to larger quarters to accommodate an increasing demand. To provide for further growth, they have purchased a tract of 4 acres on which they have erected a model manufacturing plant, with 65,000 feet of floor space, or three times their former capacity. The building has a frontage of 280 feet, and is arranged in the form of the letter E, so that the manufacturing is done in four wings, each 40 feet wide, thus affording plenty of light. The building is located on the line of the New York Central railroad, having its own switch for shipping purposes. The space needed for handling the office work alone is 130×40 feet. The building not only trebles their capacity, but gives the company many other advantages.

SAWYER BELTING CO. — REMOVAL.

THE Sawyer Belting Co., formerly of East Cambridge, Massachusetts, have removed their office and plant for the manufacture of Sawyer improved canvas belting to Cleveland, Ohio. The manufacturing capacity of the new plant is larger than the old and improved machinery has been added. On account of nearness to the coal fields the power cost is cheaper and there are assurances of a plentiful supply of help and better shipping facilities. The company caters largely to the western and jobbing trade and large consumers in the central states. The selling department is managed by Mr. George W. Taite, who was connected with the company at the old address; the manufacturing end is attended to by Mr. William Schneider, superintendent, and Mr. Amos Pettingel, in charge of the stitching department.

NEWS OF THE AMERICAN RUBBER TRADE.

ATLANTIC RUBBER SHOE CO.

AT a special meeting of stockholders of the Atlantic Rubber Shoe Co., on December 20, 1905, the capital stock of the company, which was \$10,000,000, consisting of \$2,500,000 preferred, and \$7,500,000 common, was reduced to \$800,000, being divided into \$500,000 preferred and \$300,000 common. This was done by reducing the par value of the shares, the number remaining the same. On January 3 at the annual meeting of stockholders of the company the following were elected directors for one year: Latham A. Fish, John H. Flagler, George D. MacKay, Frank N. White, Joseph O. Stokes, John R. Hegeman, Edward H. Litchfield, Thomas B. Hidden, G. Trowbridge Hollister. At a meeting of the directors, in New York, on January 24, John H. Flagler was elected president; George D. MacKay, vice president; and George W. Palmer, secretary and treasurer.

UNITED STATES RUBBER CO.—DIVIDENDS

THE board of directors of the United States Rubber Co., on January 4, declared a dividend of 2 per cent. upon the First Preferred stock (including all the preferred stock now outstanding) for the quarter beginning October 1, 1905, and a dividend of 1½ per cent. upon the Second Preferred stock for the same quarter, from the net earnings of the company, such dividends being payable, on January 31, without closing of transfer books, to shareholders of record on January 15. The net earnings for the first nine months of the fiscal year (December partially estimated) are stated to be approximately \$3,162,000, without reference to dividends on the Rubber Goods Manufacturing Co. stock, excepting for one-quarter upon Preferred stock in the company's treasury. The net earnings for the corresponding period last year were \$3,140,312.67.

A circular issued by Drake, Mastin & Co., stock brokers of New York, follows:

WE submit herewith for the information of our friends and others who may be interested, a condensed statement which we consider a conservative forecast of the probable result of the business of the United States Rubber Co. for the fiscal year ending March 31, 1906:

Estimated net earnings of the United States Rubber Co.....	\$3,500,000
President Dale of the Rubber Goods Mfg. Co. (an auxiliary of the United States Rubber Co.) estimates that the net earnings of that company will be for the same period \$2,500,000 of which there will accrue to the United States Rubber Co.....	1,836,000
Estimated total net income.....	\$5,336,000
Less 8 per cent. on \$28,640,300 1st preferred stock	\$2,291,224
Less 6 per cent. on \$8,447,300 2d preferred stock	508,638
Surplus applicable to dividends on common stock.....	\$2,799,862
Equal to about 11 per cent. on \$23,666,000 common stock of the United States Rubber Co. outstanding.	\$2,536,138

THE SPECIAL MEETING.

At the special meeting of shareholders of the United States Rubber Co., held on January 3, the proposed amendments to the by laws were adopted—in relation to increasing the board of directors to 21, and modifying the details of

bond issues and allotment of dividends. The by-laws already in force provided for 19 directors, and as only 17 were elected at the last annual meeting, two additions to the board were made at the special meeting: Charles H. Dale, president of the Rubber Goods Manufacturing Co., and Arthur L. Kelley, a director in the same company and president of the Mechanical Fabric Co. (Providence, Rhode Island).

BISHOP GUTTA-PERCHA CO. (NEW YORK).

At the annual meeting of the shareholders of this company, held on January 10 at the office of the company, No. 420 East Twenty-fifth street, the following persons were elected directors: Henry A. Reed, William Boardman Reed, Henry D. Reed, Louis F. Reed, and Ellen I. Anderson, the list being the same as last year except that Louis F. Reed succeeds Amos A. Browning. Henry A. Reed was reelected president and treasurer, and William Boardman Reed, vice president. Louis F. Reed was reappointed secretary and Henry D. Reed, superintendent. The usual semi annual dividend of 5 per cent. was declared.

THE GORHAM RUBBER CO. BEYOND THE PACIFIC.

THE Gorham Rubber Co. (San Francisco, California), with typical enterprise, have opened a depot for the sale of their goods in the important city of Osaka, Japan, where they carry a large stock of mechanical rubber goods, druggists' sundries, and bicycle tires, all in charge of a resident Japanese who has been most successful in disposing of their goods. = = Mr. E. H. Parrish, vice president of the Gorham company, is now touring the Far East. Not in an automobile but on two big grips containing samples of bicycle tires and other productions that the company so successfully market. When last heard of he was on his way from Australia to the Straits Settlements, and from there he goes to China, the Philippine Islands, and Japan before returning home.

SEMICENTENNIAL OF THE TYER RUBBER CO.

THIS year will complete the first half century of the Tyer Rubber Co. (Andover, Massachusetts), the business having been founded in 1856 by Henry George Tyer, an English gentleman who began to devote his inventive genius to India-rubber in New Jersey, in 1840. The chief product of the Andover factory, at first, was what was called the "Compo" shoe, made of leather and cemented together with Gutta-percha by a process invented by Mr. Tyer. Later he secured a patent for the "Congress" arctic which was acquired by the Wales-Goodyear Shoe Co. In 1866 Mr. Tyer began to make rubber druggists' sundries, in which line he developed many improvements, this becoming in time the chief product of the factory. In 1876 the business was incorporated as the Tyer Rubber Co., Mr. Tyer filling the office of president until his death, in 1882. He was succeeded as president by his son, Horace H. Tyer, and in the same year John H. Flint was elected treasurer, and under their combined management the company's business has shown a constant growth and solidity. The company's staff meanwhile has grown in size and efficiency, but this paragraph must close with the mention of Frederick H. Jones, who, beginning with the company 20 years ago, has risen to the position of general manager.

TREDAIR RUBBER CO. ABSORBED.

THE suits between the Foster Rubber Co., Tredair Rubber Co., and Regal Shoe Co. (all of Boston), for infringement of patents, have been amicably settled. The Tredair Rubber Co. (incorporated in Maine in November, 1904, with \$100,000 capital authorized) goes out of business altogether. The Regal Shoe Co. becomes by agreement one of the large customers of the Foster Rubber Co., and will carry the "Foster" heels and heel cushions exclusively in all their stores. The products heretofore manufactured by the Tredair Rubber Co. will be supplied to the trade hereafter by the Foster Rubber Co., and the latter, as owners of both Foster and Tredair patents, state that they will prosecute more vigorously than ever their claims and bring suits against all infringers. The Foster company are large producers of molded rubber goods, such as rubber heels, heel cushions, soles, crutch tips, and hoof pads. They are patentees of the so called "Friction Plug" specialties, in which a special fabric is vulcanized into the wearing surface of heels, soles, and the like, with a view to the prevention of slipping and giving longer wear. What has been known as the Foster heel cushion will now be marketed as the "Foster-Tredair" cushion. It fits inside the shoe, under the heel of the wearer, and is preferred by many to an elastic heel outside the shoe. It is stated that over 500,000 of these cushions were sold last year.

THE INDUSTRY PROSPEROUS IN TRENTON.

THE past year was a prosperous one for the rubber industry at Trenton, New Jersey. An estimate made by the *True American* newspaper places the value of rubber goods made there during 1905 at \$6,000,000—a larger figure than in any former year. Profits, perhaps, were not proportionately large, owing to the high cost of materials. There were no strikes during the year; none of the factories was shut down at any time except for repairs; most of the factories were run overtime for part of the year; and there was an increase in the number of employes. Important additions were made to several factories, and much new machinery was installed, both in the way of extensions and improvements.

A SYNTHETIC RUBBER FROM OHIO.

THE Wright Rubber Manufacturing Co. (Mansfield, Ohio), manufacturers of "crude rubber," as a special favor to THE INDIA RUBBER WORLD have forwarded a small sample of their synthetic gum, with the understanding that it does not go out of the editorial possession. The gum in color is something like fine Pará rubber, but much "shorter," suggesting Ceará rubber in its texture. When burned it seemed to the Editor to have a slight smell of rubber. This is not written, however, as an expert valuation of the gum, as the Editor had a slight cold and the office boy, who had none, was unable to detect any such rubber smell. A later communication from the Wright company states that the product is the invention of Mr. E. F. Wright, who is the president of the company, and is the result of four years of experiment; that there is no rubber at all entering into the compound, that it will vulcanize to any hardness; and that they have recently completed a dental plate which has been satisfactory in every way. He does not say definitely whether the dental plate was made wholly of his product, or partly crude rubber.

STANDARD UNDERGROUND CABLE CO. (PITTSBURGH).

THE annual report presented at the shareholders' meeting on January 23 showed gross business for 1905 of \$12,997,124, which was much the largest figure in the history of the company. Indeed, the business showed an increase of about 50 per cent. over 1904. Out of the net earnings the usual dividends of 3 per cent. quarterly were paid, and a liberal charge made for depreciation of plant. Unfilled orders on hand on December 31 and booked up to date aggregate \$1,700,000. The directors were reelected, as follows: Mark W. Watson (president), Joseph W. Marsh (vice president and general manager), John Moorhead, Jr., John B. Jackson, B. F. Jones, Jr., Robert Pitcairn, J. N. Davidson, William A. Conner, and L. W. Dalzell.

REVERE RUBBER CO EMPLOYEES' "FOURTH ANNUAL".

THE fourth annual banquet of the clerks and salesmen of the Revere Rubber Co. (Boston), on the evening of January 26, as usual, was well attended and was a thoroughly enjoyable affair. After dinner Mr. Henry C. Pearson, Editor of THE INDIA RUBBER WORLD, gave a talk on "A Trip to Central America," with stereopticon views of Nicaragua, Costa Rica, and Panama, including many that were of interest from the rubber standpoint. The dinner was at the Hotel Essex, Boston.

GRADING OF RUBBER SCRAP.

THE new regulations adopted by the Paper Stock Dealers' Association of Philadelphia, for the grading and packing of various forms of stock traded in by its members, contain details relating to rubber scrap. These involve little change in rules for grading rubber from the practice of the whole trade in recent years, but the list to-day embraces very many kinds of rubber which, a dozen years ago, would not have been available for reclaiming—a fact suggestive of the progress and improvement that have been made in rubber reclaiming. The Philadelphia regulations follow:

Rubber Boots and Shoes.—Must be dry, free from leather, arctic cloth tops, brass nails and brass eyelets.

White Rubber.—Must be free of metal, cloth lined water bags, cement and fiber wringer rolls and colored stock.

Mixed Black Rubber.—Must be soft and pliable, free from fiber, metal floor mats and packing.

Matting and Packing.—Must be free from belting, metal and all other substances foreign to rubber.

Hose.—Must be soft and pliable, rubber lined, covered and free from metal.

Cotton Jacket Fire Hose.—The lining of which must be elastic.

Mixed Inner Tubes.—Must be elastic and free from cloth and metal.

Pneumatic Bicycle and Automobile Tires.—Must be free from wire and dried out rubber.

Solid Wagon Tires.—Must not contain baby carriage tires, iron or wire.

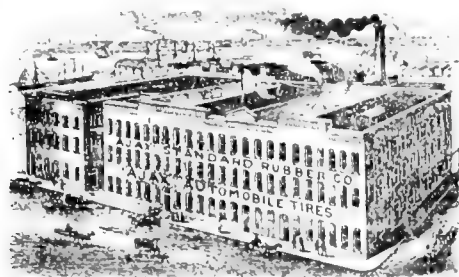
Tare.—Tare will not be allowed on rubber scrap of any description.

NEW INCORPORATION.

BRECK RUBBER Co. (Springfield, Mass.), January 10, 1906, under Massachusetts laws; capital, \$5000. James R. Breck, president; Frank G. Wooden, treasurer; Charles G. Breck, clerk. These constitute the board of directors. Some time ago the firm of Breck Brothers, dealers in rubber goods, made an assignment to Mr. Wooden, an attorney, and the creditors have agreed to have the business continued as a corporation.

AJAX STANDARD RUBBER CO.

A NEW rubber tire factory is being developed within the limits of New York city—on upper Manhattan Island in fact—by the Ajax Standard Rubber Co., incorporated November 11, 1905, under the laws of New York state, with \$100,000 capital. The president of the company is Horace DeLisser and the treasurer Robert A. Patteson. The factory is being installed in the building Nos. 420-430 East One Hundred and Sixth street, which is near East river.



FACTORY OF THE AJAX STANDARD RUBBER CO

The superintendent is Louis Destribates, formerly with the International A. & V. Tire Co. (Milltown, New Jersey). Mr. DeLisser informs THE INDIA RUBBER WORLD that the shareholders in the company are practically the members of the American Motor Car Manufacturers' Association—the organization of manufacturers refusing to recognize the George B. Selden patent (United States, No. 549, 160). Mr. DeLisser mentioned that first tires had been turned out on January 16.

DUNLOP "RUBBER DINNER" AT TORONTO.

THE staff of the Dunlop Tire and Rubber Goods Co., Limited (Toronto, Ontario), were entertained on the evening of January 4 at a "Rubber Dinner" by Mr. John Westren, general manager of the company. The dinner is an annual event, but it proved more interesting this year in view of the recent growth of the business and the installation of the new factory, which was described in the December INDIA RUBBER WORLD. The menu card was humorous in character, as indicated by the description of the roast, in the following lines:

Said the boarder a rest I shall take,
For this must be a Dunlop beefsteak,
Though its springy to feel—
Like a good rubber heel—
It will neither rip, tear, crack nor break.

"GWENDOLEN."

THE Goodrich Gwendolen is certainly a beauty. It stands on par with the galaxy of beautiful portraits that, for years past, The B. F. Goodrich Co. have presented to their friends. In the little ornamental flyer that accompanies the picture is a miniature of Gwendolen and it seems that the picture of the young lady is addressed to the "Man who holds the rudder," and it requires no stretch of imagination to picture a mariner rising from the briny depths, grasping firmly a slippery rudder, and forgetting all of his peril as he sees Gwendolen beaming down upon him from the stern of the boat.

SEWARD RUBBER CO. ORGANIZED.

THE first meeting of the board of directors of the Seward Rubber Co. was held in Hartford, Connecticut, on January 15, when William Seward was elected president,

Edgar L. Hopkins, treasurer, and W. J. Sturgis, secretary. THE INDIA RUBBER WORLD is informed: "All possible energy is being used to complete the equipment of the factory, which is located at Berlin, Connecticut, and it is hoped that samples [of tires] will be out by the middle of March and that deliveries can begin to be made early in April."

NEW YORK STOCK EXCHANGE TRANSACTIONS.

UNITED STATES Rubber Co.:

DATES	Common.			Preferred		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Dec. 23	13,150	55 1/4	52 1/2	1,005	111 1/4	109 1/4
Week ending Dec. 30	11,570	54	47 1/8	2,630	110	108 1/4
Week ending Jan. 6	10,850	54	51	1,700	111	109 1/2
Week ending Jan. 13	15,605	54 1/4	52 1/4	3,520	114	111
Week ending Jan. 20	30,250	57	54 5/8	6,271	115	112 5/8

SECOND PREFERRED.

WEEK ending—Dec. 23.	Dec. 30.	Jan. 6.	Jan. 13.	Jan. 20.	
Sales.....	3,200	1,200	6,400	4,010	6,000
High.....	83 1/4	83	85	84 1/4	87 1/2
Low.....	81 1/2	81	83	84 1/4	86 1/4

FIRST PREFERRED STOCK, \$28,705,800.

Last Dividend, October 31, 1905—2%.

	1901.	1902.	1903.	1904.	1905.
Shares sold.....	132,278	104,202	62,343	182,443	200,497
Highest price.....	85	64	58	100	118 1/2
Lowest price.....	47	49 1/2	30 1/4	41	92 3/8

SECOND PREFERRED, \$8,477,300.

Last Dividend, October 31, 1905—1 1/2%.

	1905.
Shares sold.....	21,550
Highest price.....	83 3/4
Lowest price.....	75

COMMON STOCK, \$23,666,000.

Last Dividend, April 30, 1900—1%.

	1901.	1902.	1903.	1904.	1905.
Shares sold.....	318,038	53,356	80,890	285,810	723,665
Highest price.....	34	19 1/4	19 1/4	34 1/2	58 1/2
Lowest price.....	12 1/2	14	7	10 1/2	33 1/4

RUBBER Goods Manufacturing Co.:

DATES.	Common.			Preferred.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Dec. 23	700	41 1/2	40 1/8	100	105	105
Week ending Dec. 30	280	41 1/4	40 1/8	—	—	—
Week ending Jan. 6	400	42	42	—	—	—
Week ending Jan. 13	100	43	43	25	105	105
Week ending Jan. 20	—	—	—	100	106 3/4	106 3/4

PREFERRED STOCK, \$9,051,400.

Last Dividend, December 15, 1905—1 1/2%.

	1901.	1902.	1903.	1904.	1905.
Shares sold.....	18,541	39,582	55,280	25,864	46,806
Highest price.....	90	74	64 1/2	98	109 1/8
Lowest price.....	65	63	60	74 3/8	94

COMMON STOCK, \$10,351,400.

Last Dividend, July 15, 1901—1%.

	1901.	1902.	1903.	1904.	1905.
Shares sold.....	172,631	339,895	276,789	369,347	459,373
Highest price.....	38 1/4	25 1/8	30	27 1/8	41 1/4
Lowest price.....	18	17 1/4	12	14 1/4	21 1/4

AMERICAN DUTIES ON RUBBER SPONGES.

A DECISION in the United States circuit court, southern district of New York, January 10, 1906, in the matter of the protest of Alfred H. Smith Co. (New York) against the assessment of duty at 30 per cent. *ad valorem* on imports of rubber sponges—the importer claiming that they should be assessed as "sponges" at 20 per cent. *ad valorem*—sustained the action of the collector. The court held that

"sponges," in the meaning of the law, embraced only natural sponges of aquatic origin.

TRADE NEWS NOTES.

THE Shelby Rubber Co. (Shelbyville, Indiana), mentioned in our last issue as having been incorporated, with \$100,000 capital, advise THE INDIA RUBBER WORLD that their object is to engage in manufacturing automobile tires, with other carriage rubber goods, and also automobile tops. D. F. Randolph is president; J. F. Meloy, vice president; Olin S. Peck, secretary; and Thomas J. Marshall, treasurer.

=The New England Rubber Club are planning to hold their Midwinter Dinner on February 19 at The Exchange Club, Boston. Among distinguished speakers who are expected to be present are the Hon. William M. Ivins, of New York, the Hon. Samuel W. McCall, congressman from Massachusetts; the Hon. John N. Cole, speaker of the Massachusetts house of representatives, and others.

=The Hood Rubber Co. (Boston) declared their regular quarterly dividend of 2 per cent. at the beginning of the year.

=The large additions to the plant of The Fisk Rubber Co. (Chicopee Falls, Mass.), referred to in THE INDIA RUBBER WORLD October 1, 1905 (page 25) are practically complete and will, it is reported, increase the factory capacity by 25 per cent.

=Several of the rubber shoe factories during the month have been run only 9 hours a day instead of 10, the open winter having pointed to a decreased demand for waterproof footwear. Near the end of the month some of the mills reducing the working week to five days.

=The trustees for the holders of the first mortgage 6 per cent. bonds of the Mechanical Rubber Co. have advertised their readiness, under the terms of the mortgage, to expend \$61,190.78 in the purchase of bonds, provided the same can, in their opinion, be made advantageously, on or before February 15, at the offices of The Knickerbocker Trust Co., New York.

=The National India Rubber Co. (Bristol, Rhode Island) have changed their weekly pay day from Monday to Saturday.

=The directors of the Warren Rubber Co., a jobbing concern of Warren, Ohio, on January 11 declared a yearly dividend of 10 per cent. and made a handsome addition to the surplus fund.

=A. W. Brunn (Nos. 2-4 Stone street, New York) announces taking into partnership Mr. L. P. MacMichael, for many years connected with the crude rubber trade, under the style A. W. Brunn & Co. The firm will continue as agents for foreign houses, brokers and dealers in India-rubber, Gutta-percha, Pontianak, and Balata, and also waste rubber.

=The Continental Rubber Works (Erie, Pennsylvania) of late have been running their factory 24 hours a day, largely on bicycle tires.

=The Chicago authorities have advertised for bids for supplying about 1500 square feet of rubber mats for the new Cook County court house, mostly to be placed in front of the elevators. "No special brand is specified," we are informed, "but all mats must be guaranteed."

=The Housatonic Rubber Works (Bridgeport, Conn.) have certainly done themselves proud in their calendars this year. The two pictures, "Narcissus," and "Resignation," are exceedingly attractive.

=M. Norton & Co., dealers in rubber scrap (Charlestown, Mass.), have completed plans for a large storehouse on the site of their Rutherford avenue plant, covering 5000 square feet, 5 stories, brick, with 7 foot basement. They now have a warehouse in Medford 120x80 feet, 2 stories, with about 2 acres of yard room for storage of machinery, and have been handling on an average from three to five cars of rubber scrap per week.

=Mr. Winfield S. Knowles, of The Globe Rubber Works (Boston), is happy over the fact that during the last year he practically doubled his New England business.

=The suit of the Thomas Philips Paper Co., Akron, Ohio, against The Diamond Rubber Co., for \$25,000 damages, for the alleged pollution of the canal by the latter, was dismissed in the Akron common pleas court, on January 8, at the cost of the plaintiff.

=Hood Rubber Co., (Boston) lately distributed to the trade a folder showing twelve views of their rubber shoe factory at East Watertown, Mass., illustrating their growth during 10 years. The figures accompanying the figures may be summarized as follows:

	1896.	1906.
Floor area (square feet).....	67,564	389,107
Daily production (actual pairs).....	3,000	46,000
Number of factory employes.....	225	3,100

=In its annual estimate of the value of electrical apparatus produced in the United States, for 1905, the *Electrical World* (New York) puts down "Insulated wires and cables and submarine cables" at \$40,000,000. Its estimate of the value of the same product in 1904 was \$35,000,000, and in the year preceding \$30,150,000. Its total estimate of electrical apparatus made in the three years is as follows: \$158,650,000 in 1903; \$175,500,000 in 1904; \$217,400,000 in 1905.

=At a meeting of the board of fire and police commissioners of Omaha, Nebraska, on January 3, contracts were let for 30,000 feet of 2½ inch fire hose, divided equally between the New York Belting and Packing Co., Limited (Central Western representatives of the Fabric Fire Hose Co.), and The Eureka Fire Hose Co.

=The Mann Summer Clothing Co., manufacturers of rain-coats, have recently moved into their new Brooklyn factory, at the corner of Pitkin avenue and Junius street.

=James Boyd & Brother (Philadelphia), jobbers of mechanical rubber goods, issue this year as usual a neat memorandum pad calendar, one page for each week, together with some useful reference tables.

=R. R. Rothwell succeeds Walter Leatherow as factory superintendent of the Rubber Balloon Co. of America, at Newark, New Jersey.

=King & Leatherow, Limited, the new firm at Newark, N. J., mentioned in the last INDIA RUBBER WORLD, are installed at Nos. 3-5 Burnett street, in a factory excellently fitted for their work, which is the manufacture of toy rubber balloons and a full line of surgeons' goods.

=The Beacon Falls Rubber Shoe Co. are reported to have received an important order for rubber shoes for Turkey, to be manufactured on special lines.

=The La Crosse Rubber Mills Co. (La Crosse, Wisconsin), are now making a daily ticket of nearly one thousand pairs of rubber shoes.

=A small rubber factory within convenient distance of New York is advertised for sale with full descriptive details, in another part of this paper.

= *Town Topics* — not the New York paper in which so many local millionaires are stockholders, but a breezy paper published in Cleveland, Ohio, — had a fine half page picture of the members of the sales department of the Ohio Rubber Co., in its issue of January 13. But the paper does not say a word about the occasion that brought the talent together. Our first guess was that it was a dinner, and a good one, as they all have a particularly well fed and contented look. And so it proved to be—a reunion for three days, with headquarters at the Hollenden Hotel, December 28-30; a theatre party one night and a banquet the next.

=Some changes have been made in the Boston offices of United States Rubber Co. — No. 101 Milk street — adding to capacity and the attractiveness of the premises. A large and very fine sample room has been built and also a private office for the use of Mr. H. E. Sawyer, general manager, and Mr. E. H. Paine, manager of sales, when they happen to visit Boston.

=Mr. T. W. Miller, general manager of The Faultless Rubber Co. (Akron, Ohio) is taking a three weeks' business trip through the West.

=The L. J. Muttly Co. (Boston) who exhibited at the New York automobile shows a fine grade of rubber cloths and tubing for the automatic piano trade, together with double texture mackintosh cloths for auto tops, cushions, etc., gives away an exceedingly attractive souvenir cardcase and memorandum book bound in fawn colored pig-skin.

=Michelin & Cie., are doubling the capacity of their plant in France to better enable them to meet the constantly increasing demands of trade. When completed, the remodeled plant will turn out about 1000 tires a day. Mr. E. D. Winans, who has been general manager of the Michelin American Agency, has retired to form a company to manufacture Michelin tires in the United States, under a license from the parent company.

=The Republic Rubber Co. (Youngstown, Ohio) have under construction a rubber reclaiming plant as an addition to their general factory buildings.

=Mr. A. Harris, recently connected with the McCormick Reaper Co., has taken the position of mechanical engineer in the Republic Rubber Co. (Youngstown, Ohio).

=Eagle Rubber Co., Inc., successors to W. L. Eaton & Co., San Francisco, are beginning the manufacture of rubber mold work, making a specialty of valves, gaskets, and the like. They are doing a good business in selling a "Handy Nail Holder," a rubber device for holding a nail so as to protect the finger of the amateur carpenter while wielding his hammer.

"CONTINENTAL" TIRE MEN AT DINNER.

THE third annual banquet of the Continental Caoutchouc Co. (New York) occurred at the Hoffman House on the evening of January 18, President Willy Tischbein, of Hanover, Germany, being the guest of honor. The various distributing agents, branch managers, salesmen, and department managers of the company throughout the United States were in attendance. Interesting business topics were discussed during the evening, in addition to which there was a musical program, and altogether the affair proved most enjoyable.

=The Salisbury Tire Co., with \$100,000 capital, have been incorporated to establish a factory for automobile tires at Owosso, Michigan.

RUBBER SHOE PRICES LOWER.

New prices for rubber boots and shoes were issued on January 1. The United States Rubber Shoe Co. state that the gross prices on light goods remain the same, but it has been necessary to make some revision of the lists on heavy goods. In some cases the new price is slightly higher, while others have been reduced. The manufacturers take the position that the prevailing high cost of raw rubber, cotton, and the other materials used, precludes a generally lower scale at this time. Discounts are the same announced last year on January 1. They are 25 @ 3 per cent. on first grade goods and 25 @ 3 @ 10 for second grade. On February 8, 1906, discounts were charged to 20 @ 3 and 20 @ 3 @ 10, which amounted to an advance, which prevailed throughout the year. The new discounts, therefore, mean lower net prices than before January 1 by about 6 per cent. on the average. All the leading American manufacturers have issued new lists. == Rubber shoe manufacturers in Canada do not issue new lists or change their discounts until March of each year—generally about the first Monday, which this year will fall on March 5.

PERSONAL MENTION.

MR. WATSON H. LINBURG, president of the United and Globe Rubber Manufacturing Cos. (Trenton, New Jersey), was reported recently as having recovered from a serious illness of *grip*, lasting for several weeks.

=Mr. John P. Lyons, advertising manager of the United States Rubber Co., who is recuperating in California, advises THE INDIA RUBBER WORLD that he is progressing finely and looking forward to warm weather, when he can again be back among his friends.

=Mr. Isaac Crocker, president and treasurer of the Hope Rubber Co. (Providence, Rhode Island), and his son, Mr. George I. Crocker, president of the Crocker Rubber Co. (Brocton, Mass.), started early in the month on an extended tour on the Pacific coast, going via Santa Fé on the outward trip, and taking in all the points of interest on the coast as far as Seattle. They will return via Salt Lake City, Denver, and St Louis, intending to reach home in March.

=Mr. A. R. Duryee, superintendent of the rubber factory of Asbest- und Gummiwerke Alfred Calmon, A.-G. (Hamburg, Germany), sends THE INDIA RUBBER WORLD a postal card from France, where he has been taking a brief vacation, at the beginning of which he visited the Paris Automobile Show.

=Mr. Leo F. Nadeau, of the La NuevaProvidencia Rubber Co., with headquarters in Providence, Rhode Island, recently wrote to THE INDIA RUBBER WORLD from Panama, delayed for two weeks until he could catch a steamer to Guatemala. He further wrote that it was as hot as — the rest of the sentence being illegible.

=Mr. Siegmund Seligmann, one of the directors of the Continental Caoutchouc- und Guttapercha Co. (Hannover, Germany), arrived in New York by the *Deutschland* on January 25 and expects to return on February 6. Mr. Seligmann is associated in the business management at Hannover with Mr. Adolph Prinzhorn who has visited America several times. Mr. Seligmann was preceded to the United States by Mr. Willy Tischbein also, of Hannover, who arrived in time to attend the automobile shows. Mr. Tischbein, by the way, is president of the American corporation of the Continental company.

=Mr. Webster Norris has retired from the superintendency of the factory of the Republic Rubber Co. (Youngstown, Ohio), being succeeded by Mr. J. F. McGuire and Mr. Lewis T. Petersen, both of whom were formerly connected with The B. F. Goodrich Co.

=The Metallic Rubber Tire Co. (New York) issue a circular stating that their counsel, Alfred Wilkinson, No. 52 Broadway, New York, has been directed to bring suit against users of the "Samson" and other non-skidding tires claiming infringement of patents owned by the plaintiff company, dating back to 1898.

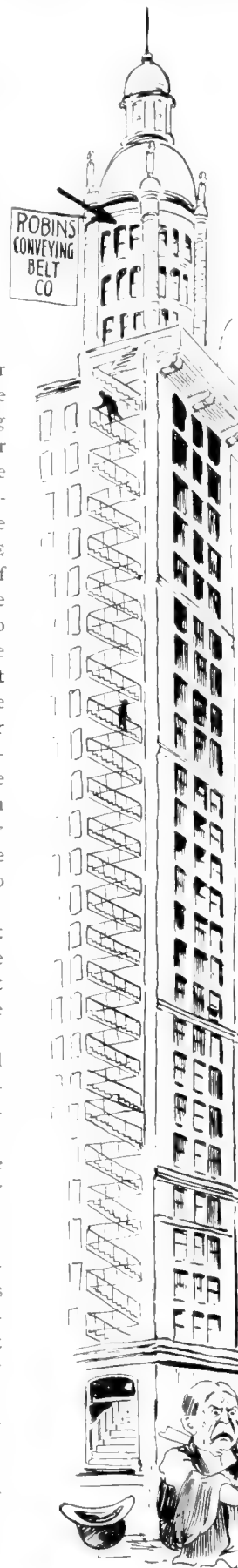
An attachment obtained by the Goodyear Tire and Rubber Co. (Akron, Ohio) against the New York-Broadway Rubber Tire Co., a selling concern, issued in a suit for damages brought for the alleged failure of the latter to carry out the terms of a contract for the purchase of automobile tires, was vacated in the New York supreme court on January 20. Mention was made in THE INDIA RUBBER WORLD last month of the suit of the New York-Broadway company against the Goodyear Tire and Rubber Co. to recover \$150,000 in respect of an alleged breach of contract. The Goodyear concern began a counter suit, and it was in this that the attachment was issued. The attachment in the suit against the Goodyear Tire and Rubber Co. was still in force at last accounts, but an order was on file requiring the New York-Broadway company to serve certain papers before January 30, the Goodyear company having alleged that loss and inconvenience were being caused to them by failure of such service to be made.

=Mr. C. J. Bailey, of Boston, was on hand at both the Armory and Madison Square automobile shows, in New York, and was much gratified at the number of makes of tires that showed the Bailey "Won't Slip" tread.

=The Pneumatic Ball Tire Co., incorporated to make a new tire patented by Frank A. Magowan, who will be general manager of the company, have opened an office at No. 66 Broadway, New York, and are reported to be considering the establishment of a plant in New Jersey. They are now having sample tires made. Frank B. Adams is president of the company.

=Howe Rubber Co. (No. 228 High street, Newark, New Jersey), the incorporation of which was reported in THE INDIA RUBBER WORLD in September last, have a factory fitted up with the latest methods for producing dipped rubber goods. They manufacture toy balloons and toy dolls. E. T. Howe, the head of the company, was until August last the Howe of King & Howe, Limited, of Newark.

=The Miami Vulcanizing and Rubber Co. (Cincinnati, Ohio) have been incorporated under the laws of Ohio, with \$5000 capital, by Louis F. Reemelin, Joseph W. Roth, Jr., W. C. Smith, W. W. Robertson, and Thomas Bertham.



ROBINS CLIMBS DOWN.

SOME years ago, or more exactly in 1896, THE INDIA RUBBER WORLD published an article on the use of rubber conveyor belts, written by Thomas Robins, Jr. The article was promptly copied in leading journals abroad and the author got much reputation. Soon after this his business as a builder of conveying machinery began to boom. During the initial stages of his business, he was a constant reader of THE INDIA RUBBER WORLD, and paid his subscription joyfully. When later, however, he became a full fledged prosperous conveyor belter, his attitude changed, not at once to be sure, but slowly, as the subtle poison of eight ply prosperity got into his veins. He began to neglect the editorial page, then trade notes, then new goods, and finally ended in throwing aside the "Rubber Man's Bible," and definitely turning his back on faith and fact, he discontinued his subscription.

The Editor of the paper saddened, but resigned, bided his time, sure that such ingratitude would bring its own punishment. It came, as a beginning at least, and in this manner: Mr. Robins glories in the fact that his office, on the twenty-ninth floor of the Park Row building, New York, is situated higher up in the air than any other. When the elevators run this is no handicap, but when a man forsakes his Mascot, and is forced to climb down 29 flights of stairs to reach the normal human level, it is disastrous. That has happened once. Who can predict what further call down fate has in store for this unhappy man.

"While the lamp holds out to burn,
The vilest sinner may return."

[\$3 a year, in advance.]

NOT THE SAME WHITE LEAD.

TO THE EDITOR OF THE INDIA RUBBER WORLD: In one of your recent numbers appeared an article concerning the restricted use of white lead in France on account of its poisonous properties, and further commenting on restrictions enacted along these lines by the government. Your article and the recent laws passed in France refer only to the so-called carbonate, or, as it is more commonly known "corroded white lead." Sublimed white lead, as manufactured by us, is absolutely non poisonous and for that reason is much preferred by manufacturers of rubber and paints. I trust you will give this short note the same publicity as you did the article I mentioned. Very truly yours,

PICHER LEAD COMPANY,
R. W. EVANS, Treasurer.
Chicago, January 13, 1906.

PROBABLY the largest sum of money ever paid for any individual tire patent was \$1,000,000 paid to the North British Rubber Co. for their "Clincher" tire patent, the company reserving shop rights, and continuing to make tires.

REVIEW OF THE CRUDE RUBBER MARKET.

THE situation in the trade is not such as to call for any special comment, in view of the amount of detailed information contained in the quotations and statistical tables presented in different parts of this month's paper. Total Pará receipts for the first six months of the season (to December 31) were 14,670 tons—an increase of 1370 tons over the same months of 1904. January arrivals, up to the 29th were 4755 tons (including Caucho) against 4590 tons in the preceding December.

Following is a statement of prices of Pará grades, one year ago, one month ago, and on January 30—the current date:

PARÁ.	February 1, '05.	January 1, '05.	January 30.
Islands, fine, new.....	121@122	124@125	122@123
Islands, fine, old.....	none here	none here	none here
Upriver, fine, new.....	124@125	129@130	126@127
Upriver, fine, old.....	none here	none here	none here
Islands, coarse, new.....	70@71	75@76	73@74
Islands, coarse, old.....	none here	none here	none here
Upriver, coarse, new.....	92@93	96@97	93@94
Upriver, coarse, old.....	none here	none here	none here
Caucho (Peruvian) sheet.....	71@72	74@75	74@75
Caucho (Peruvian) ball.....	80@81	91@92	86@87

AFRICAN.	CENTRALS.
Sierra Leone, 1st quality 103@104	Esmeralda, sausage...87 @88
Massai, red..... 103@104	Guayaquil, strip.....73 @74
Benguella..... 84@85	Nicaragua, scrap...84 @85
Cameroon ball..... 72@73	Panama, slab.....65 @66
Accra flake..... 26@27	Mexican, scrap.....86 @87
Lopori ball, prime.... 113@114	Mexican, slab.....63 @64
Lopori strip, prime... 96@97	Mangabeira, sheet....60 @70
Madagascar, pinky... 92@93	EAST INDIAN.
Ikelemba..... 113@114	Assam.....97 @98
	Borneo.....45 @49

Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine.....	5\$200	Upriver, fine.....	6\$300
Islands, coarse.....	2\$700	Upriver, coarse.....	4\$200
Exchange, 17½d.			

Last Manáos advices:

Upriver, fine.....	6\$200	Upriver, coarse.....	3\$700
Exchange, 17½d.			

NEW YORK RUBBER PRICES FOR DECEMBER (NEW RUBBER).

	1905.	1904.	1903.
Upriver, fine.....	1.23 @ 1.20	1.18 @ 1.30	.93 @ .98
Upriver, coarse.....	.90 @ .97	.89 @ .97	.76 @ .81
Islands, fine.....	1.20 @ 1.26	1.14 @ 1.26	.88 @ .94
Islands, coarse.....	.71 @ .77	.65 @ .72	.54 @ .57
Cametá.....	.72 @ .78	.65 @ .71	.54 @ .57

Statistics of Para Rubber (Excluding Caucho).

NEW YORK.

	Fine and Medium	Coarse.	Total. 1905.	Total. 1904.	Total. 1903.
Stocks, November 30.....	154	0 =	154	7	32
Arrivals, December.....	824	464 =	1288	1705	1502
Aggregating.....	978	464 =	1442	1712	1534
Deliveries, December.....	861	459 =	1320	1643	1478
Stocks, December 31....	117	5 =	122	69	56

PARÁ.

ENGLAND.

	1905.	1904.	1903.	1905.	1904.	1903.
Stocks, November 30.....	395	540	195	505	180	370
Arrivals, December.....	2985	3220	3185	1090	670	1100
Aggregating.....	3380	3760	3380	1595	850	1470
Deliveries, December.....	2795	3560	3010	1025	675	925
Stocks, December 31....	585	200	370	570	175	545

	1905.	1904.	1903.
World's visible supply, December 31.....	2589	2444	2979
Pará Receipts, July 1 to December 31.....	13575	12551	12540
Pará Receipts of Caucho, same dates.....	1085	779	960
Afloat from Pará to United States, Dec. 31.....	652	1520	905
Afloat from Pará to Europe, December 31.....	660	480	1100

Pará Market.

R. O. AHLERS & Co. report [January 2]:

The market has continued to display great firmness, and under the influence of good demand not only has considerable activity prevailed, but the impulse towards higher prices has also exercised its due effect. The simultaneous improvement reported from the consuming markets has likewise contributed to impart additional strength.

Firm Changes at Para.

THE firm Schrader, Gruner & Co. on January 2 succeeded Cmok, Schrader & Co., Mr. Franz Hermann Cmok, of Hamburg, retiring from the business. The Manáos branch will be conducted under the style Dusendschön, Nommensen & Co., instead of Dusendschön & Co.; as formerly. The capital of the business is stated at 2,300,000 milreis, with 500,000 milreis held by Messrs. Heilbut, Symons & Co., of London and Liverpool. The partners in Pará and Manáos are W. R. Schrader, K. F. H. G. Gruner, C. L. Nommensen and O. F. A. Dusendschön.

The firm hitherto existing under the style of Kanthack & Co. ceased on December 31, the business being continued on the same line by the new firm of R. O. Ahlers & Co., opened on January 1 under the auspices of the old firm, Mr. Kanthack continuing an interest in the business.

A new Pará firm is Scholz, Hartje & Co. The first name in the firm style is that of Waldemar Scholz of Scholz & Co., at Manáos. The firm embraces also Frederico Hartje; Frank, Arthur, and Luiz da Costa; C. J. de Figueiredo—all well known in the Para rubber trade and Nicoláo Henrique Witt, long the head of Witt & Co. at Manáos, and now interested in the succeeding firm. Scholz & Co.

London.

JANUARY 19. — The market for Pará rubber has been weaker and lower in consequence of reported good arrivals at Pará, and buyers have shown little disposition to operate. Fine hard was sold on the spot and forward at 5s. 4¼d. down to 5s. 3½d.; soft fine sold on the spot at 5s. 2d. Bolivian fine spot sold at 5s. 4¼d. to 5s. 3¾d. Fair scales of Peruvian ball spot and near 3s. 7d. At to-day's auction medium grades were scarce and met a slow demand and only a part sold at steady rates. Columbian good clean white scrape 3s 7¾d. Madagascar mixed Majunga and black coated slab at 2s. 7¾d. to 2s. 10¾d. Assam plantation rather barky at 4s. 3d.

Rubber Scrap Prices.

New York quotations—prices paid by consumers for car-load lots in cents per pound—show a slight reduction in shoes, as follows:

Old Rubber Boots and Shoes - Domestic.....	7½ @	7½
Do -- Foreign.....	6½ @	6½
Pneumatic Bicycle Tires.....	6½ @	6½
Solid Rubber Wagon and Carriage Tires.....	8½ @	8½
White Trimmed Rubber.....	10½ @	11
Heavy Black Rubber.....	5½ @	6
Air Brake Hose.....	3½ @	3½
Fire and Large Hose.....	3 @	3¼
Garden Hose.....	2½ @	2½
Matting.....	1¼ @	1½

Antwerp.

THE regular inscription sale on January 24 was again very large, the offerings amounting to 728 tons. Some of the more important lots, with the brokers' estimations, in francs per kilogram, were:

29,311 kilos	Upper Congo Atuwini	10.25
28,800	Upper Congo Atuwini	10.50
17,135	Upper Congo Atuwini	10.50
8,100	Upper Congo Atuwini	12.00
20,287	Upper Congo Atuwini	10.00
10,777	Congo Kasai	11.25
12,808	Congo Kasai	10.25
32,988	Congo Kasai	10.25
18,027	Congo Dumi	8.00
21,887	Upper Congo Lek	10.75
50,112	Upper Congo Lek	10.75
10,000	Upper Congo Lek	12.12
0,703	Upper Congo ordinary	12.12
10,170	Upper Congo Mongalla	11.00
15,130	Upper Congo Mongalla	12.10

Very small lots of Iopori and Ikelemba rubbers were offered. A small lot of Straits Settlements crepe (plantation) was estimated at 16 francs (—\$1.40 per pound).—The entire offerings are reported to have been sold, presumably upon European account, at prices higher than were expected.

ANTWERP IMPORTS FOR TEN YEARS.

YEAR.	Congo State.	Other Sources.	Total.
1896	1,100,375	9,500	1,115,875
1897	1,557,801	121,293	1,679,154
1898	1,734,395	250,286	2,014,591
1899	2,002,414	410,410	3,402,880
1900	4,002,003	796,032	5,608,035
1901	5,417,450	431,740	5,849,202
1902	4,002,954	411,031	5,403,985
1903	5,180,401	546,082	5,726,483
1904	4,723,615	1,040,238	5,763,856
1905	4,442,607	1,271,121	5,713,728

ANTWERP RUBBER STATISTICS FOR DECEMBER.

DETAILS.	1905.	1904.	1903.	1902.	1901.
Stocks, Nov. 30, kilos	635,206	611,726	680,142	185,961	843,301
Arrivals in Dec.	474,175	581,844	638,158	799,236	204,920
Congo sorts	430,404	460,386	500,415	700,150	182,525
Other sorts	37,771	121,458	38,213	39,086	22,395
Aggregating	1,100,471	1,193,570	1,318,300	985,197	1,048,221
Sales in December	374,284	652,209	707,400	327,092	633,512
Stocks, Dec. 30	735,187	541,301	610,900	658,105	414,709
Arrivals since Jan 1	5,713,728	5,763,856	5,726,483	5,403,985	5,849,202
Congo sorts	4,442,007	4,723,615	5,180,401	4,992,954	5,417,456
Other sorts	1,271,121	1,040,238	546,082	411,031	431,746
Sales since Jan. 1	5,510,805	5,833,395	5,773,668	5,160,589	6,048,442

PARA RUBBER VIA EUROPE.

DETAILS.	1905.	1904.	1903.	1902.	1901.
Dec. 20.—By the <i>Alanca</i> —Mollendo					
A. D. Hitch & Co. (Fine)	5,000				
Boston & Bolivia Co. (Fine)	1,800	6,800			
Dec. 20.—By the <i>Cinila</i> —Liverpool					
Poel & Arnold (Coarse)			8,500		
Dec. 30.—By the <i>Celtic</i> —Liverpool					
New York Commercial Co. (Coarse)			7,000		
JAN. 1.—By the <i>Demian</i> —Liverpool					
Poel & Arnold (Medium)		50,000			
New York Commercial Co. (Coarse)		2,500	57,000		
JAN. 1.—By the <i>Parana</i> —Hamburg					
Poel & Arnold (Fine)		4			
Poel & Arnold (Coarse)		22,000	1,000		
JAN. 8.—By the <i>Latona</i> —Havre					
Poel & Arnold (Fine)		5			
JAN. 10.—By the <i>Bozic</i> —Liverpool					
Poel & Arnold (Coarse)					
JAN. 12.—By the <i>Baltic</i> —Liverpool					
New York Commercial Co. (Coarse)					
New York Commercial Co. (Coarse)		12,500	17,500		
JAN. 15.—By the <i>Latona</i> —Hamburg					
Poel & Arnold (Fine)					
JAN. 16.—By the <i>Latona</i> —Liverpool					
A. T. Morse & Co. (Coarse)			11		

JAN. 1.—By the *Mareste*—Liverpool

Poel & Arnold (Coarse)	45,000
JAN. 22.—By the <i>Unbria</i> —Liverpool:	
A. T. Morse & Co. (Coarse)	35,000
George A. Alden & Co. (Cauchol)	11,000
JAN. 23.—By the <i>Hudson</i> —Havre:	
Constantine P. Santos (Fine)	11,500

OTHER ARRIVALS AT NEW YORK

DETAILS.	1905.	1904.	1903.	1902.	1901.
Dec. 26.—By the <i>Allanca</i> —Colon:					
Hirzel, Feltman & Co.	32,000				
Dunsmuir Bros. & Co.	6,700				
Lawrence Johnson & Co.	6,100				
A. Santos & Co.	4,200				
G. Amstuck & Co.	3,600				
R. R. Grace & Co.	2,500				
Charles F. Griffin	1,300				
Isaac Brandon & Bros.	500	58,200			
Dec. 27.—By the <i>Sabin</i> —Mobile:					
Manhattan Rubber Mfg. Co.	2,000				
G. Amstuck & Co.	2,000				
Eggers & Hemlein	700	47			
Dec. 30.—By the <i>Celtic</i> —Liverpool:					
General Rubber Co.	41,000				
George A. Alden & Co.	28,000				
H. W. Peabody & Co.	7,000	76,000			

Ceylon Exports (Plantation Rubber).**DETAILS—BY WEEKS.**

POUNDS.	POUNDS.
January 1 to Nov. 20... 121,090	Week ending Dec. 18... 7,081
Week ending Nov. 27... 1,496	Total to Dec. 18... 140,132
Week ending Dec. 4... 9,229	Same period, 1904... 87,623
Week ending Dec. 11... 1,236	Same period, 1903... 40,921

DESTINATION.

Great Britain... 104,069	United States... 2,121
Germany... 16,234	Australia... 1,152
Belgium... 9,410	Holland... 125

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

January 5.—By the steamer *Amazonense*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Cauchol.	Total.
A. T. Morse & Co.	216,900	49,500	194,300	500	461,200
N. Y. Commercial Co.	257,800	48,600	74,300	1,300	382,000
Poel & Arnold	126,000	24,700	52,700	300	203,700
General Rubber Co.	103,100	34,000	38,500	300	175,900
Edmund Reeks & Co.	38,200	3,400	9,800		51,400
Hagemeyer & Brunn	23,600	3,000	8,300		34,900
Neale & Co.	1,200	700	36,100		38,000
Constantine P. Santos	16,200	2,900	600		19,700
Total	78,300	166,800	414,600	2,400	1,366,800

January 17.—By the steamer *Caarene*, from Manáos & Pará:

Poel & Arnold	165,300	59,500	148,500	31,400	404,900
A. T. Morse & Co.	85,600	21,400	106,300	15,800	229,100
N. Y. Commercial Co.	113,200	21,800	57,100	1,500	193,600
Neale & Co.	45,000	8,500	86,500		140,000
General Rubber Co.	93,400	16,600	25,000	600	135,600
Constantine P. Santos	59,800	18,500	21,400	1,300	101,000
Hagemeyer & Brunn	30,000	1,300	23,300		54,600
Edmund Reeks & Co.	19,200	3,600	18,700	300	41,800
Total	611,500	151,200	486,800	50,900	1,300,400

January 26.—By the steamer *Grangense*, from Manáos & Pará:

General Rubber Co.	229,200	53,600	120,500	6,400	409,700
N. Y. Commercial Co.	99,900	32,000	91,800	2,700	226,600
Poel & Arnold	88,700	40,000	67,300	23,100	228,100
A. T. Morse	46,700	10,400	38,400	3,700	99,200
Neale & Co.	6,700	5,600	32,500		44,800
Edmund Reeks & Co.	23,600	1,100	15,700	7,300	47,700
Hagemeyer & Brunn	28,000	2,800	15,000		45,800
Arana Bergman Co.				40,200	40,200
Banco Exportasos				15,000	15,000
Lawrence Johnson & Co.	4,600	1,000	3,500		9,100
Constantine P. Santos	3,900		3,900		7,800
Czarnikow McDougal Co.	4,200	2,300	500		7,000
Total	535,500	157,800	388,300	98,400	1,180,000

Dec. 3.—By the *Orizaba*—Mexico:

American Trading Co.	700
Harburger & Stack	500
Total	1,200

JAN. 2.—By the *Hostilius*—Montevideo:

American Commercial Co.	30,600
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JAN. 2.—By the *Campania*—Liverpool:

General Rubber Co.	11,000
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JAN. 2.—By the *Finance*—Colon:

Hirzel, Feltman & Co.	16,500
Mann & Endon	4,000
G. Amstuck & Co.	3,000
Total	23,500

JAN. 2.—By the *Yucatan*—Mexico:

H. Manquard & Co.	3,500
Harburger & Stack	1,500
Strule & Ulze	1,500
Total	6,500

JAN. 2.—By the *Siberia*—Colombia:

D. A. De Lima & Co.	2,500
Fould & Co.	2,500
Isaac Brandon & Bros.	800
Pedro A. Lopez	500
Total	6,300

JAN. 4.—By the *Tagus*—Caribbean:

J. A. Medina & Co.	1,500
E. B. Strout	1,500
G. Amstuck & Co.	1,500
Chalmers & Guthrie	2,500
Meyer Hecht	500
Kunhardt & Co.	500
Total	8,000

CENTRALS—Continued.

JAN. 5.—By the <i>Rio Grande</i> =Mobile:	
A. T. Morse & Co.	7,000
Manhattan Rubber Mfg. Co.	3,500
Eggers & Heinlein	3,000
Salazona & Co.	2,000
G. Amsinck & Co.	1,500 17,000
JAN. 5.—By the <i>Pennsylvania</i> =Hamburg:	
A. T. Morse & Co.	18,500
Rubber Trading Co.	8,000
General Rubber Co.	2,500 26,000
JAN. 8.—By the <i>Mexico</i> =Panama:	
Piza, Nephews Co.	4,000
JAN. 6.—By the <i>Philadelphia</i> =London:	
Poel & Arnold	22,500
JAN. 8.—By the <i>Esperanza</i> =Mexico:	
E. Steiger & Co.	15,000
Graham, Hinkley & Co.	1,000
Thebaud Brothers	1,000
Harburger & Stack	500
European Option	22,500 26,200
JAN. 8.—By the <i>Minnehaha</i> =London:	
General Rubber Co.	47,000
George A. Alden & Co.	35,000 82,000
JAN. 8.—By the <i>Carmatia</i> =Liverpool:	
George A. Alden & Co.	53,000
JAN. 8.—By the <i>Alta</i> =Colombia:	
Cortez Commercial Co.	2,000
D. A. De Lima & Co.	1,000
Roldan & Van Sickle	1,000
Fould & Co.	1,500
A. Held	800
A. S. Lascellas & Co.	1,000
Mecke & Co.	500
G. Amsinck & Co.	500
Isaac Brandon & Bros.	700 9,100
JAN. 9.—By the <i>Calden</i> =Bahia:	
American Commercial Co.	15,000
Hirsch & Kaiser	10,000
Poel & Arnold	3,000 28,000
JAN. 11.—By the <i>Protena</i> =New Orleans:	
A. N. Rotholz & Co.	7,000
A. T. Morse & Co.	5,000
G. Amsinck & Co.	4,000
Manhattan Rubber Mfg. Co.	2,000 18,000
JAN. 12.—By the <i>Lowlands</i> =Grevtown:	
G. Amsinck & Co.	2,200
E. B. Strout	2,200
Lawrence Johnson & Co.	800
W. R. Grace & Co.	500 5,700
JAN. 13.—By the <i>City of Washington</i> =Tampico:	
Edward Maurer	20,000
Continental Mexico Co.	11,500
Graham, Hinkley & Co.	1,000 32,500
JAN. 15.—By the <i>Advance</i> =Colon:	
J. A. Medina & Co.	3,000
Wessels & Kulenberg	3,000
Smithers Nordenholt & Co.	800
Silva, Bussenius & Co.	900
Eggers & Heinlein	800
Isaac Brandon & Bros.	500 11,000
JAN. 15.—By the <i>Vigilancia</i> =Mexico:	
Harburger & Stack	3,500
E. Steiger & Co.	2,500
Graham, Hinkley & Co.	1,500
H. Marquardt & Co.	1,000 8,500
JAN. 17.—By the <i>Havana</i> =Colon:	
Hirzel, Feltman & Co.	7,000
G. Amsinck & Co.	5,200
Dumarest Bros. & Co.	6,300
A. Santos & Co.	3,000
Roldan & Van Sickle	1,500
Mann & Emdon	2,700
Lawrence Johnson & Co.	1,100
George A. Alden & Co.	1,000 27,300
JAN. 17.—By the <i>Sarnia</i> =Colombia:	
Roldan & Van Sickle	1,500
D. A. De Lima & Co.	1,500
Cortez Commercial Co.	1,500
American Trading Co.	1,000
Pedro A. Lopez	800
A. D. Straus & Co.	500 6,800
JAN. 18.—By the <i>Abalo</i> =Grevtown:	
E. B. Strout	13,500
G. Amsinck & Co.	7,000
Meyer Hecht	3,000
J. A. Medina & Co.	2,000
D. A. De Lima & Co.	1,500
American Trading Co.	1,000
Kunhardt & Co.	1,000 29,000
JAN. 23.—By the <i>Alghany</i> =Colombia:	
Isaac Brandon & Bros.	2,200
Roldan & Van Sickle	1,500
Isaac Kubie & Co.	1,500
Mecke & Co.	1,500
A. A. Lindo & Co.	700 7,400

CENTRALS—Continued.

JAN. 23.—By the <i>Albanca</i> =Colon:	
Roldan & Van Sickle	2,500
Hirzel, Feltman & Co.	1,500
Lawrence Johnson & Co.	2,500
G. Amsinck & Co.	2,500
Dumarest Bros. & Co.	1,500
A. M. Capen's Sons	1,500
American Trading Co.	1,500 13,000
JAN. 23.—By the <i>Tomas</i> =Bahia:	
American Commercial Co.	3,000
A. D. Hatch & Co.	1,000
Hirsch & Kaiser	1,000 5,000
JAN. 23.—By the <i>Fulgencia</i> =Hamburg:	
Rubber Trading Co.	7,000
JAN. 24.—By the <i>Sabine</i> =Mobile:	
A. T. Morse & Co.	30,000
Manhattan Rubber Mfg. Co.	20,000
G. Amsinck & Co.	2,000
A. N. Rotholz	1,000
Eggers & Heinlein	2,000
E. P. Strout	1,500 60,500

AFRICANS.

DEC. 26.—By the <i>Zeeland</i> =Antwerp:	
Poel & Arnold	75,000
Joseph Cantor	15,000
Rubber Trading Co.	13,500
A. T. Morse & Co.	11,500 115,000
DEC. 26.—By the <i>Candaa</i> =Liverpool:	
Poel & Arnold	4,500 13,800
George A. Alden & Co.	4,500
DEC. 27.—By the <i>Manchester</i> =Hamburg:	
General Rubber Co.	56,000
DEC. 30.—By the <i>Great Waldersee</i> =Hamburg:	
A. T. Morse & Co.	76,000
George A. Alden & Co.	13,000
Poel & Arnold	5,000 94,000
DEC. 30.—By the <i>Celia</i> =Liverpool:	
A. T. Morse & Co.	41,000
Henry A. Gould Co.	10,000
Poel & Arnold	9,000
George A. Alden & Co.	7,000 67,000
JAN. 2.—By the <i>Campania</i> =Liverpool:	
George A. Alden & Co.	156,000
JAN. 2.—By the <i>La Thonane</i> =Havre:	
George A. Alden & Co.	22,500
JAN. 3.—By the <i>Statendam</i> =Rotterdam:	
Poel & Arnold	50,000
JAN. 4.—By the <i>Southark</i> =Antwerp:	
Poel & Arnold	237,000
A. T. Morse & Co.	40,000
Robinson & Tallman	68,000
George A. Alden & Co.	52,000
General Rubber Co.	13,000 410,000
JAN. 4.—By the <i>Armenian</i> =Liverpool:	
F. R. Muller Co.	45,000
Poel & Arnold	27,000
A. T. Morse & Co.	40,000
George A. Alden & Co.	4,000
Rubber Trading Co.	7,000 123,000
JAN. 5.—By the <i>Cedric</i> =Liverpool:	
Poel & Arnold	85,000
George A. Alden & Co.	5,000 90,000
JAN. 5.—By the <i>Pennsylvania</i> =Hamburg:	
A. T. Morse & Co.	35,000
Earle Brothers	8,000 43,000
JAN. 8.—By the <i>Carmatia</i> =Liverpool:	
A. T. Morse & Co.	25,000
JAN. 8.—By the <i>La Gascogne</i> =Havre:	
Robinson & Tallman	13,500
JAN. 9.—By the <i>Vaderland</i> =Antwerp:	
Joseph Cantor	2,000
JAN. 13.—By the <i>Bovic</i> =Liverpool:	
Poel & Arnold	27,000
F. R. Muller Co.	8,000 35,000
JAN. 15.—By the <i>Lucania</i> =Liverpool:	
A. T. Morse & Co.	4,500
Joseph Cantor	2,500
George A. Alden & Co.	22,000 29,000
JAN. 15.—By the <i>Amerika</i> =Hamburg:	
A. T. Morse & Co.	50,000
Poel & Arnold	4,500 54,500
JAN. 17.—By the <i>Kroonland</i> =Antwerp:	
A. T. Morse & Co.	17,000
Rubber Trading Co.	9,000
George A. Alden & Co.	2,000 28,000

AFRICANS—Continued.

JAN. 9.—By the <i>Majestic</i> =Liverpool:	
Earle & Brothers	25,000
George A. Alden & Co.	15,000
A. T. Morse & Co.	4,500 44,500
JAN. 2.—By the <i>Imbria</i> =Liverpool:	
F. R. Muller Co.	40,000
JAN. 23.—By the <i>Imbria</i> =Liverpool:	
George A. Alden & Co.	35,000
A. T. Morse & Co.	2,000 37,000
JAN. 24.—By the <i>Celia</i> =Liverpool:	
General Rubber Co.	75,000
JAN. 24.—By the <i>M. de</i> =Hamburg:	
General Rubber Co.	22,500
Poel & Arnold	25,000
George A. Alden & Co.	13,500
Rubber Trading Co.	2,000
Earle Brothers	7,000
A. T. Morse & Co.	11,000 104,000
JAN. 24.—By the <i>Stoterdijk</i> =Rotterdam:	
Earle Brothers	7,000

EAST INDIAN.

DEC. 26.—By the <i>M. de</i> =London:	
George A. Alden & Co.	4,500
JAN. 2.—By the <i>St. Louis</i> =London:	
Poel & Arnold	34,000
George A. Alden & Co.	4,500 38,000
JAN. 6.—By the <i>Philadelphia</i> =London:	
Robinson & Tallman	7,000
Poel & Arnold	3,500 10,500
JAN. 8.—By the <i>Clara Malachan</i> =Colombo:	
George A. Alden & Co.	3,500
JAN. 8.—By the <i>Alston</i> =Singapore:	
A. T. Morse & Co.	15,000
Poel & Arnold	13,500
Pierre T. Betts	5,500 34,000
JAN. 8.—By the <i>Minnehaha</i> =London:	
George A. Alden & Co.	16,000
JAN. 15.—By the <i>St. Paul</i> =London:	
Robinson & Tallman	4,500
Earle Brothers	2,500 7,000
JAN. 22.—By the <i>Minnetonka</i> =London:	
Poel & Arnold	47,000
George A. Alden & Co.	11,000
F. R. Muller Co.	7,000 65,000

GUTTA PERCHA.

DEC. 26.—By the <i>Canada</i> =Liverpool:	
D. A. Shaw & Co.	10,000
JAN. 8.—By the <i>Minnehaha</i> =London:	
George A. Alden & Co.	13,500
JAN. 8.—By the <i>Alston</i> =Singapore:	
Pierre T. Betts	100,000
Robinson & Tallman	25,000 125,000

GUTTA PERCHA AND BALATA.

DEC. 30.—By the <i>Waldsee</i> =Hamburg:	
Rubber Trading Co.	1,400
JAN. 2.—By the <i>St. Louis</i> =London:	
F. R. Muller Co.	11,500
JAN. 8.—By the <i>Alston</i> =Singapore:	
George A. Alden & Co.	22,500
JAN. 24.—By the <i>M. de</i> =Hamburg:	
To Order	7,000
JAN. 26.—By the <i>Noorddam</i> =Rotterdam:	
Earle Brothers	11,000
JAN. 23.—By the <i>Stoterdijk</i> =Rotterdam:	
Earle Brothers	17,000

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—DECEMBER.

Imports:	Pounds.	Value.
India rubber	8,500,000	\$4,413,177
Gutta percha	42,000	13,814
Gutta telutong (Pontianak)	2,285,710	75,924
Total	10,827,710	\$4,552,915
Exports:	Pounds.	Value.
Ind. rubber	1,500,000	\$783,571
Reclaimed rubber	221,014	29,040
Rubber scrap imported	800,202	\$5,326

OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
November, 1905.....	4,606,153	358,120	4,248,027
January-October.....	53,573,947	2,779,160	50,803,487
Eleven months, 1905....	55,179,800	3,128,286	52,051,514
Eleven months, 1904....	55,509,506	3,117,506	52,442,040
Eleven months, 1903....	50,868,845	3,283,398	47,585,447

GERMANY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
November, 1905.....	42,130,080	1,409,790	2,283,320
January-October.....	37,920,540	14,277,340	23,652,200
Eleven months, 1905....	42,222,620	15,687,100	26,535,520
Eleven months, 1904....	33,618,200	8,717,720	24,900,480
Eleven months, 1903....	31,002,000	10,387,520	20,614,480

FRANCE.*

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
November, 1905.....	2,587,440	765,100	1,622,280
January-October.....	21,604,000	14,018,620	7,585,380
Eleven months, 1905....	23,991,440	14,783,780	9,207,660
Eleven months, 1904....	19,353,840	10,412,960	8,940,880
Eleven months, 1903....	15,368,100	8,680,980	6,687,120

BELGIUM †

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
November, 1905.....	1,249,807	1,332,093	82,286
January-October.....	15,529,979	11,472,234	4,057,745
Eleven months, 1905....	16,779,706	12,805,227	3,974,509
Eleven months, 1904....	10,408,284	14,009,978	2,368,306
Eleven months, 1903....	15,129,943	11,747,425	3,382,518

GREAT BRITAIN.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
November, 1905.....	6,315,008	2,575,552	3,739,456
January-October.....	51,438,128	28,417,984	23,020,144
Eleven months, 1905....	57,753,136	30,993,536	26,759,600
Eleven months, 1904....	51,072,000	30,417,302	20,654,698
Eleven months, 1903....	49,332,864	34,996,304	14,336,560

ITALY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
November, 1905.....	147,180	22,660	124,520
January-October.....	1,384,240	226,820	1,157,420
Eleven months, 1905....	1,531,420	249,480	1,281,940
Eleven months, 1904....	1,389,960	132,000	1,257,960
Eleven months, 1903....	1,351,240	148,720	1,202,520

AUSTRIA-HUNGARY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
November, 1905.....	254,980	17,600	237,380
January-October.....	2,464,440	27,280	2,437,160
Eleven months, 1905....	2,719,420	44,880	2,674,540
Eleven months, 1904....	2,650,780	15,180	2,635,600
Eleven months, 1903....	2,614,040	27,060	2,586,980

NOTE.—German statistics include Gutta-percha, Balata, old (waste) rubber, and substitutes. British figures include old rubber. French, Austrian, and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

* General Commerce. † Special Commerce. ‡ Net Exports.

EXPORTS OF INDIA-RUBBER FROM PARA AND MANAOS DURING 1905 (KILOGRAMS).

EXPORTERS.	UNITED STATES				TOTAL.	EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.		FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Emok, Schrader & Co. Para	1,782,031	457,817	1,338,017	425,676	4,003,541	3,941,275	510,752	888,381	1,472,499	6,812,907	10,816,448
Dusendtschön & Co. Manas	2,472,412	536,617	1,226,319	26,451	4,503,829	1,145,332	203,404	277,408	301,965	1,928,109	6,431,938
Adelbert H. Alden.....	1,060,509	214,135	304,339	412,877	1,992,109	1,356,471	232,832	320,109	391,011	2,300,423	4,292,583
Scholz & Co.....	1,777,414	38,442	730,642	68,086	1,011,778	500,502	55,522	314,426	261,556	1,132,006	2,143,784
Da Costa & Co.....	258,303	40,557	530,884	12,403	851,207	455,868	67,373	167,516	253,091	943,848	1,795,055
Neale & Staats.....	1,494,402	142,144	181,148	260,645	1,233,429	—	—	—	—	—	1,233,429
Gordon & Co.....	239,769	8,063	191,836	6,254	446,122	435,463	14,799	168,540	30,343	649,145	1,095,267
J. Marques & Co.....	—	—	—	—	—	473,811	2,504	82,420	41,067	599,892	599,892
R. Suarez & Co.....	167,045	447	78,433	—	245,925	256,983	123	65,040	2,216	324,362	570,287
Pires Teixeira & Co.	167,041	26,214	254,602	1,023	449,780	—	—	—	—	—	449,780
J. A. Mendes & Co.	34,248	10,593	14,189	8,058	67,088	147,475	64,893	65,932	35,847	314,147	381,235
J. H. Andresen Successors..	50,135	10,304	16,967	1,988	88,484	87,314	18,406	17,209	7,342	130,271	218,755
Denis, Crouan & Co.....	—	—	—	—	—	136,317	27,513	50,578	54,428	268,836	268,836
Kahn, Polack & Co.....	—	—	2,700	—	2,700	105,337	13,875	25,637	41,294	246,143	248,843
SinglehurstBrocklehurst&Co	—	—	—	—	—	20,583	3,256	3,992	106,993	134,824	235,815
J. C. Arana & Hos.....	11,117	13,418	12,172	3,665	105,872	20,504	2,882	14,379	15,910	62,675	168,547
Kanthack & Co.....	—	—	—	—	—	80,112	12,972	15,376	5,099	113,559	113,559
Luiz Schill & Sobrinhos..	34,354	7,445	11,628	7,538	60,965	—	—	—	2,562	2,562	63,527
Reeks & Astlett.....	—	—	—	—	—	21,802	4,352	4,783	28,262	59,199	59,199
Matus & Levy.....	—	—	—	—	—	1,280	320	1,320	17,726	20,646	34,385
B. A. Antunes & Co.....	—	—	—	—	—	11,981	552	2,048	112	14,693	14,693
Ahlers & Co.....	28,707	4,570	11,994	—	42,631	52,220	4,156	10,634	28,281	95,291	137,922
Sundry small exporters...	—	—	—	—	—	111,524	16,260	28,389	38,695	193,877	193,877
Saved ex 1905.....	12,175	—	14,646	12,025	40,104	621,480	34,858	424,399	1,227,391	2,308,128	2,348,232
From Iquitos direct.....	—	—	—	—	—	—	—	—	—	—	—
Total.....	7,118,431	518,414	4,921,222	1,647,216	15,206,345	10,952,634	1,291,703	2,498,516	4,363,690	18,656,543	33,916,888
Total, 1904.....	7,092,211	417,383	5,304,420	1,222,580	10,309,408	7,615,817	993,955	2,503,520	3,221,376	14,334,668	30,644,136

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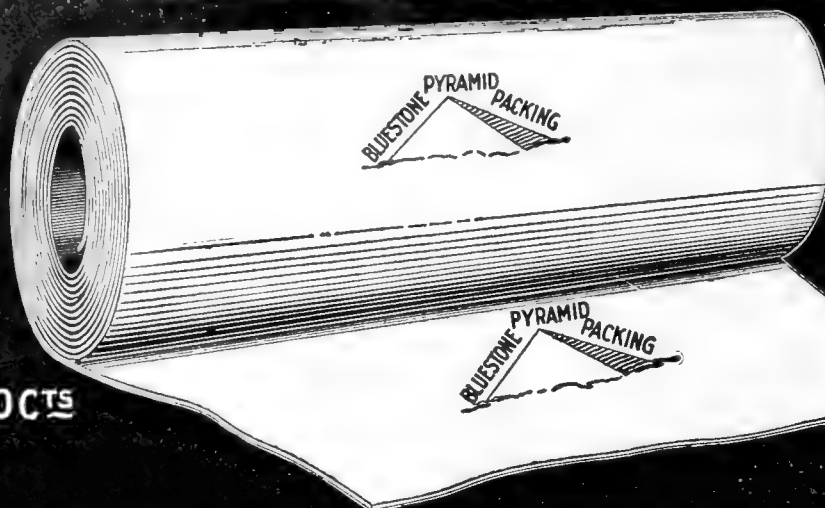
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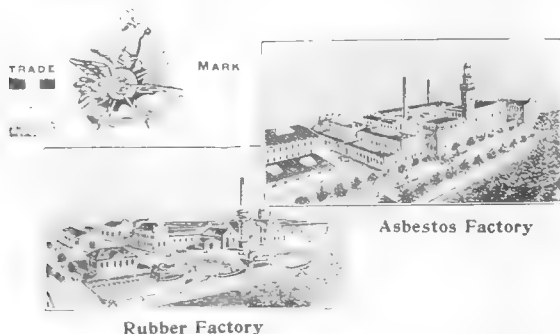
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THE QUESTION OF RUBBER YIELDS.

A CORRESPONDENT this month challenges certain statements regarding a large yield reported from a few cultivated "Pará rubber" trees in Ceylon, contributed to our January issue, as being incredible. The Editor of this Journal is unable to offer any personal testimony in the case, but the statement referred to was accepted and paid for and published in utter good faith—all the more because the same facts, in one form or another, have become common property in the Far East, where the means exist for readily exposing any canard quite as much as in any other region known to us. In the daily and other journals of Ceylon and the Malay States the facts in regard to rubber culture are regularly and more thoroughly discussed than is true of any other form of material development to which newspapers anywhere else on earth devote attention.

But the question is not whether a few trees on a certain plantation actually did yield an unprecedentedly large amount of rubber, though that yield has not, we believe, been disputed by any competent authority. What is more to the point is the suggestion made in a Ceylon paper that an exceptionally large yield may be produced by a few trees, under specially favorable circumstances, as a result of extra care, without establishing a new standard of average yield for all rubber trees, everywhere. What was sought to be illustrated by our Ceylon contributor was that under certain new methods of treatment a larger yield of rubber was attained than from the same or similar trees under the best practice before known. And this we considered proper matter for publication, with a view to encouraging rubber planters generally to devote their energies to continued experimenting in an effort to get better and better results from their labor, through the continual employment of new means.

We print the communication of Mr. Waldron, with his computation of what the ultimate yield of Ceylon rubber would be, on the basis of the large yield we reported in January, with the comment that nobody, even in Ceylon, has expressed the idea that such a yield can be obtained in general practice. But even if it could be, in a given country, with a given species, it does not follow that like results would be necessarily possible everywhere, and with every species. Our own idea is that the rubber planter should figure out the *minimum* yield which would afford a profitable return from his capital, and whatever he can realize above this is so much more than the gains of the average man. There is no reason why miraculous returns from rubber should be expected, more than from any other field of investment.

Mr. Waldron has begun to ship rubber from his plantation in Nicaragua, and we feel that he has reason to be congratulated upon his initial results. And a few planters in Mexico are beginning to realize the fruition of their work, without reason, as we view it, to be dis-

appointed. Still, they are at the very beginning, if we look upon the new interest as something which is to last as long as the world needs rubber.

No doubt Mr. Waldron's plantation, under his intelligent supervision, will before many years reveal many improvements in practice, which will afford financial returns equal to his largest expectations; at least we hope so, and the general result will be furthered by the co-operation of equally enterprising planters in Mexico, in the Far East, and no doubt in the Philippines and in Africa. But the least of all things to be feared is the possibility of over-production of rubber—at least during the lifetime of those who are now actively interested in this field.

THE PEACE POLICY OF THE U. S. R.

TIME was when the United States Rubber Co. was at war with its neighbors and apparently neither cared to make money for itself nor to allow others in the same line to do so. With the advent of Colonel Samuel P. Colt as president, however, there came a radical change. Prices went up, "third grade" goods were almost eliminated, and while the great company fought just as hard for trade, it was a fair, open, friendly fight. A great company or so-called trust, is always suspected by individual concerns in the same line and its friendliness viewed with distrust, but it should after all be sized up on its record. The record of the United States Rubber Co. for the past few years has been a friendly attitude toward all big and little, a policy of selling goods at a fair profit, and the keeping up of the quality of goods. Both the public and the independent manufacturer have profited by this policy and it is only fair that it should be freely acknowledged.

THE RUBBER PLANTING INTEREST occupies a very considerable portion of our space this month, and we feel that it is justified. Not only London, but New York, Antwerp, and Hamburg have become markets for plantation rubber, on a commercial scale, and in no case is the result discouraging to the planting interest. With regard to New York, it is worthy of note that a leading rubber importing house—the house which figures second in exports of "wild" rubber from the Amazon valley—appears in this month's news as largely interested in the most notable plantation in the Malay States. And an important rubber manufacturing company here is in the forefront in promoting rubber production under cultivation on this side of the globe.

THE NEW GERMAN TARIFF, due to go into effect on this date, it now appears, will not discriminate against the United States—as was at one time reported—at least for another year. Meanwhile there may be an opportunity for such interchange of views between the two countries as will permanently remove the possibility of a "tariff war." But so far as the rubber trade is concerned, it is not clear why either country should be dissatisfied with existing conditions. That is to say, the constantly increasing sales of American rubber goods in Germany appears to be about equally offset by American imports of other classes of rubber goods from the *Federland*.

PROGRESS IN THE RUBBER SHOE TRADE is shown by the way in which it is adapting itself to a condition of less dependence upon snow. Time was when the trade depended largely upon the sale of heavy boots, for which the absence of snow destroyed the demand. Nowadays millions of light weight shoes are sold, of a type desirable even for an ordinary rainstorm. And doubtless in time we shall have water-proof footwear so delicate that at least every lady or child will consider a pair indispensable even in summer, every time the weather predictions indicate a shower.

THE EXPULSION OF YELLOW FEVER from Havana (Cuba), making it the most healthful of tropical cities, and what appears to be the success of sanitary science in the Isthmus Canal zone, means much for the future of the rubber business. We have before expressed the opinion that the Amazon valley to-day is not more deadly for white men than the now populous and prosperous Mississippi valley was in the early days of the United States. And what is science good for, if it does not enable intelligent men to live wherever business calls them, even if that business is gathering rubber in tropical forests?

WE ARE GLAD TO PRINT THE NEWS, which comes to us from time to time of rubber associations from different parts of the country, even if each is confined to a comparatively small circle. No trade can fail to benefit from a proper co-operation among its members, and it may be that in such associations as that which exists on the Pacific coast, for example, may be found the seeds of what will ultimately become a National association, based upon principles mutually beneficial to the whole trade in the States.

OUR ABLE CONTEMPORARY, the New York *Evening Mail*, quotes with ill concealed doubt a prediction credited to THE INDIA RUBBER WORLD—which, by the way, we fail to recognize as our own—that rubber will get to be as valuable as gold. Perhaps the *Evening Mail* will not object to answering the question whether rubber is not already "as valuable as gold?" It all depends upon the point of view, you know.

WHAT WOULD CHARLES GOODYEAR THINK, after having worried himself for so many years about a single rubber patent, could he appear on the scene now and see hundreds of new rubber patents every year, and many of them more remunerative than the one to which he devoted his life?

OUR SALUTATIONS to the New England Rubber Club, for its success in so long steering away from the shoals of "price regulation," on which so many associations of rubber men have been wrecked.

THE GAMBLING IN RUBBER COMPANY SHARES in London bears about as much relation to legitimate rubber planting as betting on horse races does to the world's practical use of the horse.

IF AMERICANS CANNOT GROW RUBBER in the Philippines, will it be an admission that they are less capable than their British cousins in developing the possibilities of their tropical possessions?

A NEW RUBBER BELT AND ITS MANUFACTURE.

EVER since rubber came into use as a material for machinery belting, the efforts of manufacturers have been directed toward the discovery of some means of counteracting its one objectionable quality—the tendency to stretch. This tendency has been overcome to some extent by using a closely woven fabric as a sort of interlining. Although the fabric strengthened the belt and reduced the tendency to “give”, the result from its use has not been wholly satisfactory. One objection to the rubber belting has been the liability of the layers of rubber and cloth to separate. Mr. William R. Smith, of Buffalo, New York, has invented a belt in which he has reversed the relative importance of the rubber and fabric. The gripping action of the rubber on the pulley is retained, but the major portion of the strength and flexibility comes from the fabric.

It is claimed for the Smith belting that the rubber protects and preserves the fabric, thus adding greatly to the strength of the belt by increasing the cohesion of the fibers. The fabric used differs from that used in the older types of rubber belting, in that it is much coarser in mesh. It is not disposed in layers, but is a continuous multiple ply woven fabric. It is stretched and dried in the making, thus excluding all moisture, and while in this condition it is treated with a rubber composition that is forced into all the pores of the cloth. A more thorough penetration of the rubber into the fabric is assured by the fact that the pores of the latter are larger than in that formerly used, and also by the fabric being absolutely devoid of moisture. By this method the rubber is left soft and adhesive, thereby improving the frictional hold on the pulley.

Mr. Smith has not only invented a new rubber belting, but he has also devised and patented the machine to make it. It comprises a series of adjustable steam heated rolls between which the solid woven or knitted multiple ply cotton webbing is run. The rolls are positively driven by gears, worm wheels and worms from a single shaft running along the side of the machine. The sets of rolls thoroughly dry and take the stretch out of the webbing, each succeeding set of rolls having greater surface velocity than the preceding set and a corresponding increase in temperature.

The webbing is thus prepared for receiving the liquid rubber composition which is fed upon it from steam heated kettles or tanks as it passes through the center rolls. These are called the filler rolls and are placed side by side instead of one above the other so as to form a shallow trough between each pair, allowing the liquid composition to be applied to both sides of the fabric. The ends of the trough are formed by flanges on one of the rolls in each of the sets, which run in corresponding grooves in the mating rolls. In each set of the filler rolls, the speed is still further increased to keep the belt stretched throughout its course through the machine. The rolls are built up of rings so that it is possible to change the distance between the flanges which form the ends of the troughs to accommodate various widths of belt. The thickness of the belt is determined by the distance between the rolls of each set, which is adjustable.

After passing through two sets of filler rolls and being thoroughly saturated and coated with the liquid rubber, the belt passes between the heated rubbing plates which have opposed reciprocating motions and serve to further force the filling composition into the fabric as well as to smooth and burnish the surface. The plates are actuated by slotted leaves pivoted between the planes of the plates and driven at their lower ends by eccentrics. In going through the rubbing plates the rubber in the fabric is sufficiently vulcanized without destroying its pliability and adhesive quality.

The webbing is drawn into the machine from a reel which is provided near one end with a flange to guide one edge of the roll. Its rotation is retarded by a friction brake, the tension of which may be regulated. The completed belt as it is delivered from the machine passes over a guide roll and is coiled upon a winding reel which is provided with a variable speed drive to decrease the speed of the rotation as the belt accumulates on the reel. A disk on the side of the reel guides the belt on its inner face and is driven on its outer face by a friction roller which is feathered on its driving shaft so that its distance from the center of the disk may be varied by a rock arm extending down to the floor, to which is connected a similar arm that bears yieldingly against the

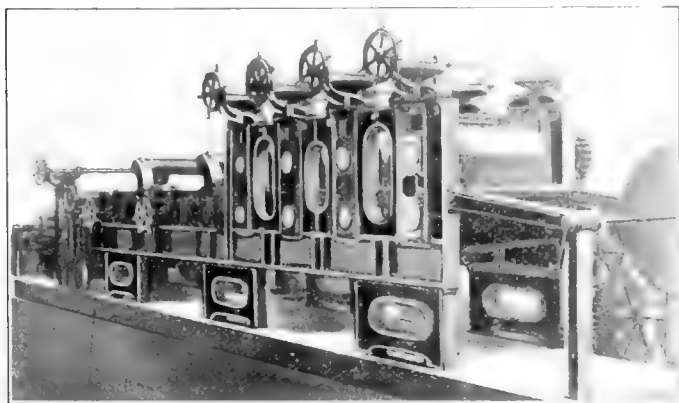


Fig. 1.—View from the Working Side of the Smith Fabric Treating Machine.

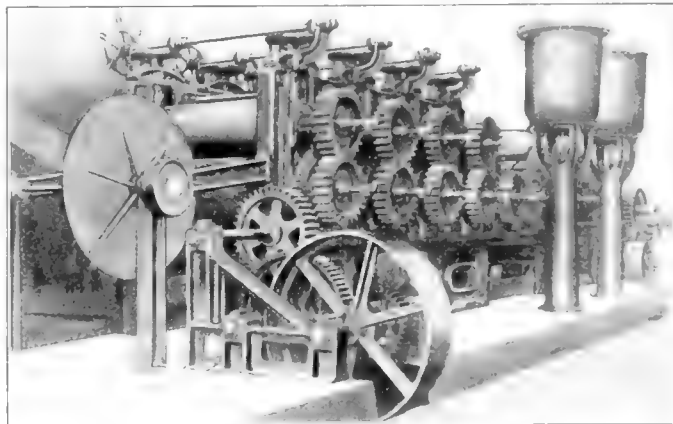


Fig. 2.—Rear View of the Machine as it Appears in the Buffalo Webbing and Belt Co.'s Works.

THE NEW RUBBER BELT MAKING MACHINE.

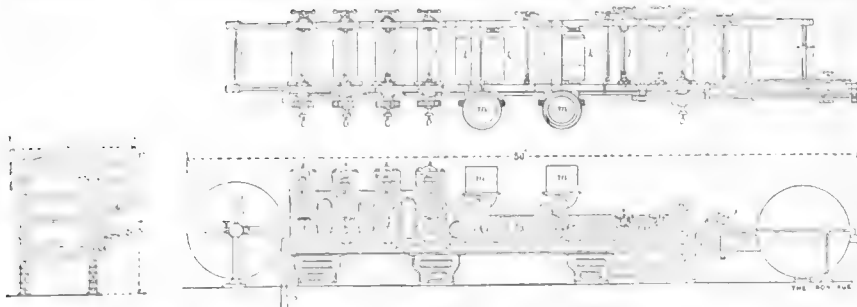


Fig. 3 - Elevations and Front View of the Smith Fabric Treating Machine.

roll of belting. As the coil increases in diameter the rock arm is deflected, causing the friction driving wheel to move toward the rim of the disk of the reel. As the driving roller runs at constant speed, the speed of the reel decreases in proper proportion to maintain uniform tension on the belt.

There is no doubt that this process produces a belting of great tensile strength, durability, adhesiveness, and frictional power upon the pulley, and one that will not stretch or shrink and is practically impervious to the action of steam, salt water, hot water or acids. The use of multiple ply webbing precludes the possibility of blistering or separating, and the belt is not affected by atmospheric conditions. The Smith machines, the patents for which have been sold to the Buffalo Weaving and Belting Co., can be adjusted to make belting of any desired thickness and of any width up to 72 inches. The machine is 50 feet in length and weighs about 90 tons.

Substantially the same process as that herein described has been employed by Mr. Smith in the manufacture of hose. For this, however, different machinery is required. Mr. Smith has invented and patented a machine for treating tubular fabrics. This patent has been sold to the Hewitt Rubber Co., of Buffalo, New York. The cuts used in illustrating this article have been reproduced from *The Iron Age*, through the courtesy of its editors.

A MACHINE FOR VARNISHING RUBBER SHOES.

RUBBER shoe makers who have good memories can recall the time when all of the varnishing was done by hand with brushes, a vast improvement over this was the dripping trough which so thoroughly displaced the brush; an improvement over this improvement is the varnishing machine shown in the accompanying picture. It is the invention of Mr. Erickson of Naugatuck, Connecticut, and is said to have been thoroughly tested out in one of the great rubber shoe factories in that town. In describing the machine the inventor says:

"The important thing about the machine is that it takes only a few hands to run it. Four men running it can do as much as ten men varnishing by hand per day, so that it saves six men's work. It therefore saves \$9.00 per day or \$2808.00 per year.

All of the shoes thus varnished look better, as the varnish is more evenly put on, because in the machine the varnish is always properly mixed with benzine, whereas at present it is an undisputed fact that the mixing is not properly done, as can be seen when the shoes are cured.

When shoes are dipped by hand the varnish clots at times on the toe as it runs off. This is done away with.

The machine is cheap, simple and easily kept, no expensive changes are required. Any one can run it if he attends to his work. It requires only that the bar be straight and shoes on bar of same size, which is an advantage as the shoes are all assorted at the conclusion and perhaps nowhere in a factory is so much time killed as in dumping the shoes.

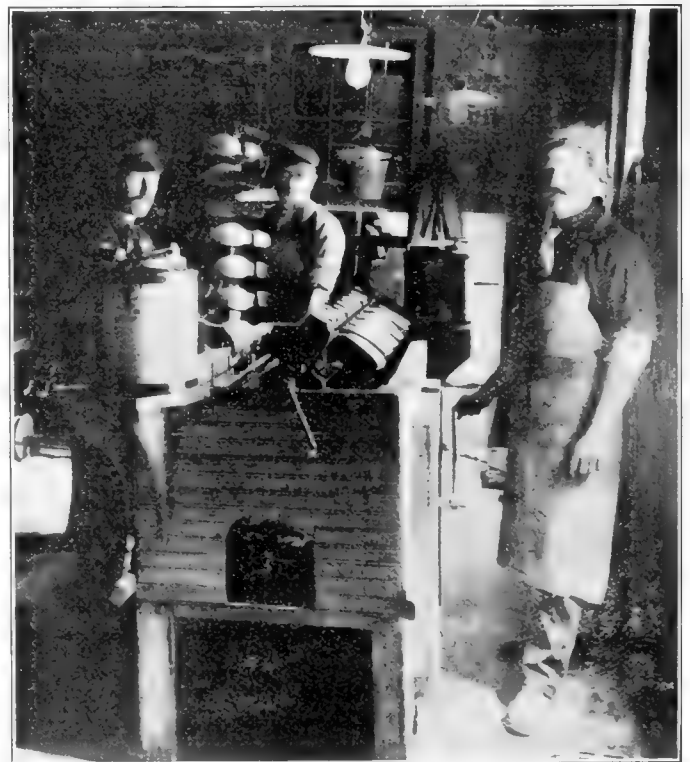
TOLD IN HAMBURG.

A STORY is told in Hamburg, and also in London, which seems to please both of the parties interested, hence its repetition here. It happened that, not long ago, Alfred Calmon, of the former city, and Mr. Bell, a man most prominent in asbestos in the United Kingdom, were in several business deals together, and each had conceived a very hearty respect for the other's ability. Mr. Bell, in visiting Hamburg, was entertained handsomely by Mr. Calmon, dined at the best restaurants, entertained at the latter's home, shown over the beautiful city, and finally taken to the Calmon asbestos factory. Before entering the door Mr. Bell halted, and seriously and politely said:

"Mr. Calmon, would it be possible for you to furnish me with a needle and thread?"

After a moment of surprised thought the other replied that he did not believe he had such a thing at the factory, but he could get any repairing done that he wished elsewhere. He added: "But why in the world do you want it?"

Mr. Bell, assuming a most benevolent expression, replied: "I have conceived so high a regard for your ability to acquire things that I hesitated to enter your sanctum without first sewing up my pockets!"



RUBBER SHOE VARNISHING MACHINE.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

PERHAPS a word or two on this topic may be allowed in so far as the rubber trade may be considered concerned. Although no prominent rubber manufacturer stood as a candidate, the name of Mr. Harvey Du Cros, the conservative victor at Hastings, will of course be familiar to many owing to his association with the Dunlop company. It is said that the main factor in Mr. Du Cros's success was the possession, or perhaps I ought to say the use, of

THE RECENT
GENERAL
ELECTION.

So motor cars. The motor car played a very important part in the election and there have been plenty of cases where workmen voters would not be taken to the poll in a horse vehicle as they wanted the novelty of riding in an expensive motor. In the course of the electioneering at Manchester speeches were made at the works of Messrs. D. Moseley & Sons, Limited, by Mr. Balfour and Mr. Horridge, K. C., who won at the poll. In the remarks of Messrs. D. and J. F. Moseley, who presided at the respective meetings, fiscal reform was advocated, it being stated that the firm had recently lost an order for 3000 lengths of hose, which had gone to Germany. Elastic thread, cut sheet, and tires were also mentioned as goods in which the firm were losing orders owing to foreign competition in England. A 5 per cent. tariff would prevent these losses of business, it was said, and the firm therefore strongly supported the policy of retaliation. Where a good many issues are before the electorate it is difficult to say which has been the most important in the voting. The great Manchester Liberal victory is generally attributed to the support of Free Trade, but the manager of a large rubber works tells me that the Liberal success was largely due to a general feeling that the Conservatives had had a long enough innings and that the other side deserved a look in. During the past year or two, two or three men prominently connected with the rubber trade had been looked upon as probable candidates, but they withdrew and with the exception of Mr. F. J. Fuller, who was re-elected in the Westbury division of Wiltshire and who is financially interested in the Avon Rubber Co., I am well aware that the trade is otherwise represented than in the case of Mr. Du Cros already referred to. It might be mentioned that a son of the last named gentleman stood for one of the London divisions, but was not successful.

THE name of Richard Russell Gubbins has appeared of late years several times in the lists of patents referring to rubber scrap and its treatment, the most recent reference being to his patents for a mechanical arrangement to minimize labor in the treatment of scrap in acid solutions. Mechanism rather than chemistry or any intimate knowledge of India-rubber is Mr. Gubbins' forte, and he is forever working at some problem connected with machinery. Apart from his patents his personality is not without interest; probably few who have watched Mr. Gubbins in his working clothes in the not too aristocratic surroundings of a rubber scrap works would associate him with that old Irish family, whose present head is chiefly known as a wealthy owner of race horses. In early life Mr. Gubbins was

a lieutenant in the Sixtieth rifles and gained the medal in the Indian mutiny. On leaving the army to follow his engineering bent he worked for some time in the United States, taking out a patent in 1872 for a paper folding machine to work in combination with a high speed printing machine. This patent he sold to the Hoe company of New York. A patent in connection with rolling mills in iron works realized a considerable sum in England, and it was his former rolling mill practice that led up to his patent machine for the recovery of rubber from armored hose.

In some recent notes I referred to the fact of 6 per cent. being given in a German scientists' paper as the amount of resin in Ceylon Pará rubber. Since then I have had an opportunity of testing some myself and find the figure to be 1.62 per cent. This is much more than I should expect and one can only assume that the German investigator had a sample which was not at all representative. From a certain source I hear complaints that this rubber is already being adulterated with farina, a fact which surprises me a good deal. I merely pass this on as a statement made to me, and have no personal experience to enable me to vouch for its accuracy. Of the flotation of rubber plantation companies there is no end and people are beginning to enquire whether the thing is not being overdone, but as long as money can be obtained the company promoters will continue active.

CEYLON
PLANTATION.
RUBBER

I HAVE referred recently to the increased numbers and activity of rubber scrap collectors without touching upon a certain phase of the subject as it affects the rubber manufacturers. Not so long ago it was customary for small rubber goods dealers to make a collection of unsalable goods whether due to old age or other causes, and to send the lot to a manufacturer asking him to give his best price. To-day this procedure has undergone a change. The shopkeeper is called upon by the waste rubber dealer's local agent, who generally secures the rubber giving better terms than the rubber works because the scale of the operations and the careful sorting into grades enables the re-sale to be carried out at a profit. As things are at present the rubber manufacturer who wishes to buy scrap has to pay higher prices to the dealer than to the shop keeper, who is now out of his market and this of course quite independent of the rise in the intrinsic value of rubber in the last few years. Another feature with regard to old rubber collectors is that they include other forms of waste material, and a rubber scrap dealer who is in a large way of business tells me that he finds it necessary to buy and do what he can with various waste materials if he wishes to have the refusal of the rubber. For instance, one dealer is seriously contemplating putting down plant for recovering tin from old tin vessels and scrap tin plate, a development which would have been received with incredulity not so long ago. I believe there is an industry known as rag and bone collecting and it may yet be found necessary for the rubber scrap dealer to get into touch with it and to put down plant for making artificial manures.

RUBBER
SCRAP
COLLECTORS

MR. R. R. GUBBINS.

IN a recent action in the chancery court between Messrs. David Moseley & Sons, Limited, and Messrs. A. J. Nathan & Co. an injunction was sought against the defendants for selling tobacco pouches of Moseley's make at prices which represented a loss. The injunction was refused, by which we may take it that if a firm choose to lose on the sale of a certain article in order to increase their turnover and probably make up the loss in other directions they are at liberty to do so. Of course there is nothing new in this class of trading; it is frequently done and if kept within well defined limits often has a salutary effect on the business in general. It necessarily requires a sufficiency of capital if disaster is to be averted and if carried on at all recklessly will soon show itself to be against the axioms of sound business procedure. Not to pursue this topic further, however, I pass on to a specific statement made by Messrs. Moseley's counsel and which seems to call for a challenge. This statement was that his clients were almost the exclusive manufacturers of tobacco pouches and linings for them. With respect to linings this may be correct, but with regard to pouches the term exclusive even though qualified by the adverb also seems to me quite inappropriate and to prove misleading to those outside trade circles. From sundry indications which have reached me I gather that other large manufacturers have read this statement with pained surprise at the depths of ignorance in which Messrs. Moseley's legal advisers are steeped on this important topic. Of course the number of pouch makers is not at all commensurate with the number of rubber manufacturers generally, but Messrs. Macintosh & Co., and Warne & Co., to say nothing of J. L. Hancock and the Leyland and Birmingham have long been prominent makers and the goods; particularly the two first named have a wide reputation. The black sheet rubber Horsey pouch of Messrs. Macintosh is as largely in favor with some smokers as is the red crocodile pouch of Warne's with others. As regards these red rubber steam cured pouches they have long held a monopoly which has never been seriously threatened in spite of the numerous attempts of competitors. At one time the black sheet rubber pouch was very generally cured with chloride of sulphur in a hot chamber. Then the advantages of the steam cure with sulphur were recognized and this process is now largely adopted. These latter certainly have a longer life than the surface cure and they show no tendency to split at the joints, indeed their life is such that renewals are only wanted after a number of years, a fact which would seem to put an enforced limit upon the production compared with earlier years. Judging by the number of peoples in Europe who use pocket tins for carrying their tobacco it would seem that the Continental demand for British made pouches was not a large one.

IN the last issue of this Journal I notice a letter from the Pitcher Lead Co., having reference, I believe, to what I said a few months ago with regard to the prohibition of the use of white lead in France. I may say that I quite understand that the new French regulations refer to the carbonate of lead, this being what is known all the world over under the name of white lead. I should think that France now offers a very good field for the makers of sublimed white lead to increase their sales, provided they can prove its efficiency as a substitute for the old carbonate. As far as Great Britain is concerned

the history of undertakings concerned with the manufacture of non-poisonous white lead forms most dismal reading. The most prominent of these was the White Lead Co. of Possilpark, Glasgow, for which Sir Henry Tyler supplied so much money. It has always proved an extremely difficult task to get the large paint concerns to take to anything but the old so-called carbonate made from the metal. The Glasgow white lead was the sulphate obtained by sublimation from roasting the sulphide ore in air and I presume the Pitcher company's product is of the same chemical composition. As far as the rubber trade is concerned there seems to be practically no difference between the carbonate and the sublimed, a point which I satisfied myself upon by using the sublimed upon a large scale in rubber mixings in place of the carbonate.

At the opening ceremony of the Manchester and District Cycle and Motor Show held at the Botanical Gardens, Manchester, on February 9, to the mayor of Salford, Alderman Frankenburg, the well known rubber manufacturer, suggested that if the motor cars in use in this country could all be made at home instead of being imported the problem of the unemployed would be solved. I am only quoting from a newspaper report which is probably imperfect, but I think it is pretty well recognized that the bulk of the out of works, excluding the unemployable, are merely laborers, not skilled workmen and certainly not the skilled mechanics who alone can find employment in the motor car manufactories.

A RECENT number of the London illustrated journal *Black and White*, had a picture of the ruins of an India-rubber factory at Moscow. I suppose this will be Minder's the next factory of any importance in the afflicted country after the big St. Petersburg and Riga works. But whether my surmise is correct or not the picture brings forcibly to mind the difficulties which capitalists in Russia are experiencing in these days of unrest. With the exception of Messrs Reddaway & Co., of Manchester, who have large belting works near Moscow, British rubber firms are not closely concerned with Russia, the factory for making rubber faced card clothing started some 20 years ago by Messrs. Horsfall and Bickam having been stopped after a short run. As an instance of present difficulties it may be noted that the English workmen engaged last autumn by Mr. W. Coulter, manager of the new thread department of the Russian French works at Riga, did not get any further than Copenhagen, whence they returned home, though exactly under what circumstances I am unable to say.

I REGRET to see it stated that the debenture holders in this firm have put in a receiver. The business carried on at the Hackney Wick works, London, was limited to the waterproof branch, which, of course, has seen a period of considerable depression in late years. The concern was made into a limited company some six or seven years ago and has had fluctuating fortunes. In all probability the decision will be come to to wind up voluntarily, in which event the trade creditors will be paid in full by Mr. B. Birnbaum, who with other members of the family hold the bulk of the shares.

MOZAMBIQUE of late has been showing a considerable increase in the export of crude rubber, which is of good quality.

A CASE
AT LAW.

OPEN TO
QUESTION.

AFFAIRS
IN RUSSIA.

SUBLIMED
WHITE LEAD

B. BIRNBAUM
& SON, LIMITED.

NEW ENGLAND RUBBER CLUB DINNER.

As usual the New England Rubber Club scored a success in its midwinter dinner, held in Boston on the evening of February 19. After trying various clubs and hotels for these banquets, the committee returned to their first love the Exchange Club, and its ample accommodations and excellent service proved the wisdom of their choice.

As ever some of the distinguished speakers who had agreed to be on hand failed to materialize, and more embarrassing still were able to notify the committee only at the last minute. The keenest disappointment was perhaps that caused by a telegram received late in the afternoon which read:

Deeply regret imperative and unavoidable professional duty makes it impossible for me to be with you this evening. Sincerely,

WM. M. IVINS.

Messrs. Whitmore and Wadbrook, however, filled in the gap by securing Mayor Fitzgerald of Boston, so that there was no lack of speakers.

The club members and their guests began to assemble at 5.30 P. M. in the spacious reception room. There for an hour was held an informal reception when all talked at once and the true social nature of the club was excellently exemplified.

There were about 150 present, making it one of the best attended dinners yet given by the Club. The dinner was beyond criticism, and Chairman Jones of the dinner committee is to be congratulated on the part of his work, although together with the other two active members of the execution committee, the Treasurer and Assistant Secretary, he did much valuable work.

President Flint who has always claimed that he was "no talker," surprised and gratified all present by his speech of welcome and by the brief well expressed introductions to speakers. The first whom he presented to the club was the Hon. John N. Cole, speaker of the Massachusetts house of representatives. Mr. Cole is a fellow townsman of President Flint, and the latter is very proud of the brilliant record of

the young newspaper man and politician. His subject was "The Press and Politics," and from start to finish he had the crowd with him. He was both witty and eloquent, and greatly amused the listeners by poking good humored fun at Congressman McCall, who sat at his left.

The subject upon which the Hon. Samuel W. McCall spoke was "Railroad Rates and Government Control." Mr. McCall, as a personal favor to the Hon. L. D. Apsley, came from Washington especially to address the club. After getting back at Speaker Cole, he settled down to his subject and spoke for three quarters of an hour, earnestly, vigorously, and convincingly. He reviewed the rate making of the past, here and abroad, and in a word condemned government ownership and rate making by legislation.

During the latter part of Mr. McCall's speech, Mayor Fitzgerald of Boston came in and when he was introduced as the next speaker he promptly sailed into the former's arguments and made many happy hits. He was slated to speak on the "Industrial Condition of Boston," but a better subject had come to the front and he eagerly grasped it.

Just how many converts either the Hon. Mr. McCall or the Hon. Mr. Fitzgerald secured it would be difficult to say, for they were both roundly applauded, and the impromptu debate although vigorous was most courteous and good natured throughout. At 10:30 the formal exercises terminated, and then another social began which lasted beyond the historic hour (for Boston) of 11 o'clock.

A feature of the dinner that is well worth emphasis is the fact that it brought out the rubber men from far and near and that they nearly all knew each other. The committee on introductions therefore had but little hard work to do in bringing people together. This committee, by the way, was Hon. L. D. Apsley, Costello C. Converse, Ex-Governor A. O. Bourn, Joseph Davol, and A. M. Paul. Among those from a distance who were present were George F. Hodgman, Frank E. Hoadley, Harry G. Fisk, and Harry T. Dunn.



SAMUEL W. MCCALL.



JOHN H. FLINT.



WILLIAM M. IVINS.

A GERMAN RUBBER MANUFACTURER.

THE manager of the Vereinigte Berlin-Frankfurter Gummiwaren-Fabriken (in Berlin), Mr. Emil Spannagel, was born in Barmen, Rhenish Prussia, in 1863. At the age of 17, having finished school, he was sent by his father to America, partly to learn English and also to get a grasp of American methods in business. He obtained a position in the well known New York importing house of Spielman & Co., and after staying with them for two years, under the excellent training of



EMIL SPANNAGEL.

the head of the firm, returned to Berlin to fulfil his military duty as volunteer of the Imperial Guard Kurassier regiment. At the end of his military service he came again to America and spent two years as a traveling salesman for Spielman & Co. and is very proud of the fact that when he made his first attempt to sell goods in the city of Portland, Maine, he booked six orders the first day. His experience as a commercial traveler, which was largely in and among New England business men, he regards as a special element in the foundation of his career. At the end of these two years military duties again called him to Berlin. Then, being much interested in modern languages, and finding great delight in traveling, he took a position with a large house manufacturing surgical goods in Kassel, with the whole of Europe for his territory. He traveled from the south coast of Sicily up into frozen Spitsbergen, going to within a few degrees of Nansen's record point. It was while in Spitsbergen, on board the *Augusta Victoria*, that he found the best comrade of his life, his wife, a lady from the old city of Bremen.

Mr. Spannagel was appointed manager of the Vereinigte Berlin-Frankfurter Gummiwaren-Fabriken in Berlin at the age of 30 and has now filled that position most acceptably for 12 years. He takes a vital interest not only in the varied line of goods that they manufacture, but is also a firm believer that rubber plantations on a large scale are the only solution for the present high price of rubber. So thoroughly impressed is he with this that he is a member of the board of the "Meanja" company, which has invested large sums in rubber plantations in Kamerun, West Africa, and also in the Samoa Kautschuk company. He is a member of the board and treasurer of the Central Verein Deutscher Kautschukwaren-Fabriken of Germany.

Mr. Spannagel is, as would be expected from his extensive travels, very much a man of the world. He speaks seven languages and writes six. He is very much esteemed

by all of his contemporaries in Germany and indeed he has friends all over the world.

CEARÁ AS AN ANNUAL CROP.

TO THE EDITOR OF THE INDIA RUBBER WORLD: In a late number of your paper you advocated planting Ceará rubber as an annual crop, the same as sugar cane, stating that at least as much rubber should be produced per acre as cane produces in sugar. As I take it, cane produces at least one ton of sugar per acre and I beg to ask: (1) Could a ton of net rubber be harvested yearly from such a field of one-year-old Ceará rubber canes? (2) What soil, etc., is required? Yours respectfully, ED. MAURER.

New York, February 7, 1906.

[THESE questions form a problem that it would be difficult if not impossible to answer satisfactorily at this time. A solution is being earnestly sought, however, and those making the experiments are confident of achieving success. We shall keep a close watch on this phase of the rubber industry and shall publish the result of our observations at as early a date as possible. With regard to soil, and climate suitable for planting Ceará, it is probable that arid land and a tropical climate in which there were marked wet and dry seasons would be the best.—THE EDITOR.]

* * *

MR. E. A. SAUNDERS of the Mishawaka Woolen Manufacturing Co. (Mishawaka, Indiana), who left New York for a Mediterranean trip on February 17, said just before sailing.

"I was exceedingly interested in your editorial in THE INDIA RUBBER WORLD regarding rubber from cultivated sources. I believe the suggestions in that article were very wise and timely. You are working along the right lines, and I hope you will keep it up. I know of no reason why many rubber producers, as they grow readily from slips, could not be planted as an annual crop and the rubber gathered from them just as sugar comes from the cane. Indeed, I would go further than that and suggest that it is perfectly possible that in our own country, that is, in the extreme southern part, some of the rubber producers could be planted as summer crops, the rubber cutting to be done in the fall, and if there is any danger from cold to cover up the stumps during the cooler season."

A CONSULAR REPORT ON GUAYULE.

THE United States consul at Durango, Mr. Le Roy, reports to Washington: "The last Mexican official gazette of patents and trade marks contains a dozen applications for patents on processes for the extraction of this rubber by Americans, Mexicans, and one German. The Continental Rubber Co. is now operating their initial \$200,000 Guayule rubber factory at Torreón, and will make extensions. Pimental & Bro. have received a twenty year federal concession for securing the Guayule rubber on government lands in the states of Durango, Coahuila, Zacatecas, and San Luis Potosi. They are to pay \$25,000 annual rental for each 17,000 acre tract marked off. Government inspection is provided to avoid destroying young Guayule plants, and so perpetuate the industry."

Send for a free copy of Index to Mr. Pearson's "Crude Rubber and Compounding Ingredients," to THE INDIA RUBBER WORLD office.

THE RUBBER TRADE IN AKRON.

BY A RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The citizens of this city who are acquainted with the rubber industry believe that they can consistently claim for Akron the leadership in the rubber manufacturing business of the United States. One company in this city last year did business amounting to \$8,817,000, it is stated on pretty good authority. This same company manufactured rubber tires to the amount of \$2,500,000, while another company, it is stated, had an output of tires amounting to \$3,000,000, the latter devoting its efforts more generally to tires than the other. There are here 14 general manufacturers of rubber goods, and in all 17 companies that make rubber goods and tires. Besides, one large plant is engaged exclusively in the rubber reclaiming business, and several others are entering into the same branch of the industry. Within seven miles, three other rubber plants are located. Two establishments in the city turn out a large amount of rubber factory machinery.

The amount of capital invested in the rubber business in Akron is shown by the fact that ten of the companies have a total capitalization of \$15,475,000, and none of these has a capitalization of less than \$50,000. These companies have all of their capital actively engaged in their business. The two largest companies here had to double their capital stock the past year. The plants in this city are not parts of any large combine, being almost exclusively locally owned and operated. For these reasons Akron claims to be the center of the rubber industry of the United States, and especially of the rubber tire industry. The total output of rubber tires in this city last year has been established at from \$7,000,000 to \$9,000,000.

The International Process Co. has been incorporated under the laws of Ohio by D. Galehouse, O. S. Hart, J. A. Braden, C. B. Myers, and H. E. Riker. It is reported that the company will deal in patents, but the incorporators decline to make any statement for publication. All of them are connected with The Diamond Rubber Co. The capitalization of the company is \$10,000.

The annual meeting of the Faultless Rubber Co., who have plants in Akron and at Ashland, Ohio, was held February 16. The old board was reflected: H. B. Camp, G. D. Bates, H. E. Andress, and T. W. Miller, all of Akron, and A. Vogt, of Rochester, New York. H. B. Camp was elected president; A. Vogt, vice president; C. E. Campbell, secretary; G. D. Bates, treasurer; and T. W. Miller, general manager. The company have had a busy year.

The Diamond Rubber Co. are having erected in Chicago a building which is intended to be the finest mechanical rubber goods and tire store in the country. Three shifts of men have been working day and night on the structure in order to have it ready for occupancy by May 1. The building will be of stone construction, three stories high, with a frontage of 100 feet on Michigan avenue near Sixteenth street, and a depth of 80 feet. At the rear through an alley a large covered space will be accessible for automobile repair work and delivery of goods. The Diamond company will combine their present tire store at No. 1241 Michigan avenue and their main branch at Nos. 167-169 Lake street in this new building.

Mr. A. H. Marks, vice president of The Diamond Rubber

Co., has returned from a visit of two months in Europe. His main object was to look after the affairs of the Northwestern Rubber Co., Limited, at Liverpool, but he also spent some time touring in France, Germany, and Italy, seeking pleasure and investigating trade conditions.

The Swinehart Clincher Tire and Rubber Co. are installing a new vulcanizer, manufactured by the Biggs Boiler Co. The Swinehart company are now turning out a small quantity every day of their reclaimed rubber, made by a process which will not be patented. After the installation of new machinery it is expected to turn out a ton a day of the rubber. A new rubber mill and a large new hydraulic press are also being installed. The company report large sales in tires, with greater results obtained at the Chicago show than at New York.

Since publication was made in the trade papers of the fact that Alexander Adamson was looking for a site for a larger foundry, he has been overwhelmed with requests to locate in different cities. He has received proposals from probably 500 other towns. He has not yet done anything, but instead is putting new machinery in his present plant.

INDIA-RUBBER GLOVES v. BOOTS.

[FROM "THE ELECTRICAL REVIEW," LONDON.]

IN view of the frequent—all too frequent—deaths by electric shock which have occurred of late years, not only to unskilled laborers, but even to highly trained and experienced station engineers, it is important that no means of guarding against such disasters should be overlooked. The inconveniences inherent to the use of India-rubber gloves are painfully evident to those who have to use them, and it is not surprising that not seldom they are dispensed with, no matter what the risk.

We have observed that, apart from cases where contact with high pressure apparatus has been brought about unawares, the victim having had no intention of touching or handling the dangerous parts, and where, therefore, gloves would not be worn, there are many accidents due to shock from hand to foot; these are, in fact, by far the most common in the limited class with which we are dealing. Shocks from hand to hand are comparatively rare. Gloves are a nuisance—why not use rubber boots?

We submit that if the left hand were gloved, and both feet encased in rubber boots outside the ordinary footwear, the right hand might safely be left bare and unhampered, thus enabling the most delicate adjustments to be effected with ease and perfect safety. Thus the clumsiness of rubber gloves would be avoided, while a much greater thickness of rubber could be employed in the soles of the boots without interfering with freedom of movement. Rubber mats, of course, are used in front of most switch-boards, etc., equipped with high pressure apparatus, but one may step off a mat whereas one cannot step off one's boots. Moreover, in many positions mats are quite inapplicable. The danger of contact with the head and hand simultaneously is, of course, present, whether rubber boots are worn or not; but shocks from head to foot are prevented. The same is true of other parts of the body, the clothing being of little protection against high pressure shocks; the danger is certainly less with rubber boots. We commend the suggestion to the consideration of station engineers for what it may be worth.

LETTER FROM A NICARAGUA RUBBER PLANTER.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I am as you know a rubber planter, having since 1898 planted near Bluefields in Nicaragua, nearly 200,000 *Castilloa* trees, which now measure mostly from 4 to 10 inches or more in diameter. I have given much time to the problems of bleeding and curing and have so far marketed in New York about a ton of cultivated rubber fully known to Messrs. Poel & Arnold and the Manhattan Rubber Manufacturing Co. of New York. Belangers, Incorporated, of the same place, have also carried on independent experiments and marketed a quantity of very fine rubber. Our yield has been very encouraging.

We have not, however, accomplished anything like what Mr. Etherington reports in your January number to have been done by some of the *Hevea* planters of Ceylon. Yields of 5 to 16 pounds from trees not exceeding 11 or 12 years seem hardly credible. If your correspondent will not take it as a discourtesy, I should like to challenge his statements. They are so wonderful and so important to the planting and manufacturing interests of the world as to be spurned or at once verified even at great expense.

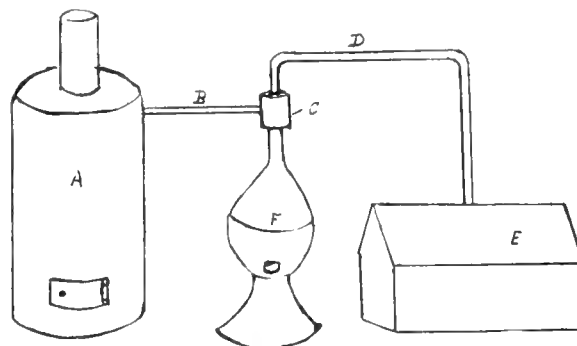
In my neighborhood there are *Castilloas* enough, if they can be made to do as well, to yield five years hence \$5,000,000 worth of plantation rubber at the present market. The total consumption of crude rubber in America is roughly 60,000,000 pounds a year, which at this Ceylon rate might be satisfied in twelve years by the production of 4,000,000 trees at a cost of \$2,000,000. I had thought that planted rubber was not likely to be felt in the markets for 25 years and that with the gradual exhaustion of the wild rubber field and the rise of wages in the tropics, which is sure to come, a rubber famine was surely approaching.

The methods of bleeding described by Mr. Etherington, upon which so much depends, differ from those followed by us in these respects: (1) Frequency of bleeding, (2) reopening the cuts, (3) pricking the wounds. Let us have proof of the magic of these practices.

The Ceylon methods of curing, described by Mr. Etherington, I have read with interest. I should like with your permission to publish what we have done, so that we may have the benefit of criticism by your readers. The coagulation of rubber latex has so far been a difficult problem. Drying in the sun in a moist tropical climate is tedious, and the sun is injurious to *Castilloa* rubber. Drying out of the sun is not practicable. Drying by steam is expensive and all methods of evaporation yield a *Castilloa* rubber prone to the viscous disintegration and tackiness, which characterize Centrals. The same objections, I think, apply to the method of absorption by pouring the milk on blotting paper or porous clays or bricks, followed by my neighbors Belangers.

Because the best Pará, in curing, is submitted to a heat probably greater than 212° and because, on the best authority, the most of the best Congo is boiled in the curing, I tried boiling the *Castilloa* latex. The result was not satisfactory. A large proportion of the rubber in the latex coagulated, but there remained always a residuum of milky fluid which no amount of boiling would cause to give up its

rubber. The Brazilian method was put aside as too expensive. Blowing smoke through the milk by means of a blacksmith's blower attached to a furnace was tried, without any success. When, however, the latex so smoked was boiled the rubber separated completely leaving a lye colored water without a trace of rubber. From these experiments the conclusion was made that smoke and heat would effect coagulation. Having a steam boiler, the apparatus of which I present a rough drawing was set up.



RUBBER SMOKING APPARATUS.

[a steamer boiler; b steam pipe; c steam syphon; d—discharge pipe; e latex vat; f smoke making furnace.]

Steam passing from the boiler through the syphon continues through the discharge pipe drawing with it into the latex the whole smoke supply of the furnace. The latex is violently agitated and gradually reaches boiling heat. As the boiling point is reached, the rubber completely coagulates. A few minutes of boiling is enough. The coagulated mass is then lifted out and sliced thin and hung over poles to dry. Because of the working of steam in the mass, it is porous and dries very quickly. Indeed, there is no other way of drying rubber except by reducing it to paper-like sheets. The process is quick, simple, and cheap. Rubber so coagulated has been kept six months without sign of viscosity or shortness of grain. The method is in effect that of Brazil, and its chief merit aside from solving coagulation is, I venture to think, the diffusion through the rubber of the preservative elements of woodsmoke. The active principle of coagulation with heat is doubtless acetic acid. It has been suggested to me by Professor Lang, of Toronto University, that crude wood alcohol, that is, alcohol from which the acetic acid had not been removed, might be an effective coagulant.

It was found that it did not do to use woods for smoke production which blazed readily and so, I venture, consumed the necessary elements of smoke. At last, it was demonstrated that the best fuel was the nuts of what is locally known as the silico palm growing very extensively in the swamps of Nicaragua and possibly identical with that producing the rubber curing nuts of Brazil. No doubt, their virtue lies solely in the fact that they give off a dense smoke and simulate a wood distillation. But I bow to the chemists. We use, in bleeding, clay to make a continuous surface from the bark into the receiving cups. Some of this clay mingles with the latex and, if not removed by washing, will hinder by its

mechanical action the success of the process of coagulation described above.

I hope you will be good enough to allow the use of your columns for the debate of these and other knotty problems of the patient and persevering industry of rubber planting.

GORDON WALDRON.

Toronto, February 17, 1906.

MR. WALDRON MARKETING RUBBER.

THERE arrived in New York during the latter part of February the first shipment of rubber produced on Mr. Waldron's plantation in Nicaragua—"Cukra" plantation, owned by The Cukra Co. of Toronto, Limited, and described in THE INDIA RUBBER WORLD July 1, 1905 (page 329). This rubber left Bluefields on the steamer *Corinto* on January 25 and reached New Orleans February 1, coming thence to New York. Mr. Waldron left Bluefields on the same steamer, going to his home in Canada via New York. The Waldron rubber, about 1800 pounds, was delivered to the Manhattan Rubber Manufacturing Co. From a cursory examination it was exceedingly attractive. It came in irregular strips, quite dark as to color, and rather spongy, thus allowing it to dry easily, but it was firm, free from surface stickiness, and when cut showed a very dense texture. After washing and drying it was apparently as tough as coarse Pará. Experts valued it at \$1.26 a pound and if large lots of it were obtainable a somewhat better price could be named.

SHIPMENT OF MEXICAN PLANTATION RUBBER.

MR. GEORGE CULLEN PEARSON, proprietor of "La Esperanza" rubber plantation, near Orizaba, Mexico, has begun tapping on a commercial scale, the oldest of his *Castilloa* trees being 6½ years old from the date of transplanting, or about 7 years from the seed. He is not attempting to get the greatest possible quantity from the trees, but to test various methods of tapping and a method of coagulation which he has decided upon after extended experimenting, with a view to producing a rubber of the highest possible quality. One shipment of about a ton has gone forward to London, and he hopes to increase the amount to about 5000 pounds during the present month. The illustration on this page gives a view of the interior of Mr. Pearson's rubber drying house from a photograph, Mr. Pearson himself appearing at the left of the picture.



GEORGE C. PEARSON'S RUBBER DRYING HOUSE.



OVERTAPPED PARA RUBBER TREES.

AN illustration on this page is reproduced by permission from "Ten Thousand Miles in a Yacht," the new book by Mr. Richard Arthur, reviewed on another page, and is interesting as showing the effect upon *Hevea Brasiliensis* of reckless and too frequent tapping, by which the latex ducts in the bark have no opportunity to become renewed, and the bark swells out, rendering new tapping after a time impossible. An interesting note on this subject, from a report by United States Consul Aymé at Pará, under the heading "Cametá Rubber from Brazil," appeared in THE INDIA RUBBER WORLD August 1, 1904 (page 379).

RUBBER EXPLOITATION IN BRAZIL.

AT the fourth annual meeting in London recently of the Brazilian Rubber Trust, Limited, Mr. Ashmore Russan who presided said that the income for the year ended September 30, 1905, was £3,255 or £755 more than they had looked forward to as the minimum amount. The estates are still under lease, and it was reported that the lessees were doing a business of £80,000 a year, at a profit of £20,000 or £25,000. When the company had gathered their own rubber they had lost money, but then the circumstances were different, Mr. Russan said. For one thing the price of rubber was only 2s. 6d. per pound then, against 5s. 4d. now. The company were considering plans for the sale of the property, and the lessees were desirous of making a lease for a longer period, but, of course, better terms for the company would be demanded. [For the last preceding report see THE INDIA RUBBER WORLD, February 1, 1905—page 151.]

MACHINE FOR TESTING RUBBER.

THE *Malay Mail* recently referred to the apparatus specially designed by the director of agriculture of the Federated Malay States (Mr. J. B. Carruthers) for testing the elasticity and resiliency of rubber, which is now being experimented with at the laboratory of the department of agriculture. The object of such machines is to subject the piece of rubber to be tested to a measured and exact strain, and one which increases gradually from nothing to the required amount. In Mr. Carruthers's machine this is achieved by pouring a fine stream of quartz sand into a receiver attached to the rubber being tested. The rubber is first carefully measured between two marks; then the required strain is applied, and a second measurement, showing the amount of

stretching, is taken. After the strain has been removed, a third reading is taken to show the recoil of the rubber, which, in the best products, should not be far from the original measurement. The whole apparatus is enclosed in a copper case with a glass door and a water bath below, in order to keep the rubber at a constant temperature, so that comparative tests may be made. The measurements are taken by sliding pointers moved by handles from the outside and running on a scale graduated to millimetres and tenths of an inch. A large number of rubbers will be tested so as to show the relative physical properties of old and new, of rubber chemically pure, and of that containing small proportions of resin.

THE ZAPOTE TREE AND CHICLE GUM.

BY A. J. LESPINASSE.*

AMONG the numerous natural products abounding in this fertile region [The Mexican canton of Tuxpam] the Zapote tree stands preëminent, its gum and wood during many decades having formed a source of wealth to a large number of individuals and corporations, native and foreign, which have obtained from the state government proprietary rights or concessions to extract Chicle gum.

The wood of the Zapote tree† is dark purplish red, and although exceedingly hard when first cut it is easily worked until thoroughly seasoned, when only the finest edged tools have any effect on its flint like surface. Sharp pointed nails can be driven into the wood only about an inch. The fiber is so dense that the wood sinks rapidly in water, and will remain immersed for years without being affected in the least. Zapote door frames in the ruins of Uxmal are as perfect to-day as when first placed in position. The wood is susceptible of a beautiful polish. The average Zapote will square 5 to 8 inches and occasionally 2 feet. It is claimed that the bark is employed to great advantage in tanning processes, and that leather so treated is superior to other kinds.

The magnificent trees are rapidly disappearing, as the operators are taking no precautions to protect them from the destructive methods of the *chicleros*, who, in their greed to obtain all the sap possible, cut the trees so deep that they do not recover from the effects of the incisions, but gradually decay. Before the trees reach this stage, and while still easy to work, they are cut down and shaped into building material.

The Chicle industry extends from this section as far as the extreme southern portion of Yucatan, which produces the largest yield, but in quality the gum is inferior to that obtained from this section, especially in the Tuxpam district. The latter gum commands a higher price in the United States, to which it is almost exclusively shipped.

Zapote trees thrive best on high, rolling land, and although trees are found on the lowlands, they are inferior in both sap and wood. Continuous tapping does not appear to have a seriously detrimental effect, provided the incisions are not too deep. Trees are known to have been tapped for 25 years, but after that time produced only from ½ pound to 2 pounds of sap. If allowed to rest five or six years they will produce from 3 to 5 pounds. The average height of the trees is about 30 feet. Zapotes are exceedingly slow in growth, and require from 40 to 50 years to attain full height.

* United States consul at Tuxpam, Mexico; extract from a forthcoming official report.

† *Achras zapota*, of the natural order *Sapotaceæ*. The same natural order embraces the genus *Iconandra*, which yields Gutta-percha, and the genus *Mimusops*, the source of Balata. [See an article on "The Basis of The Chewing Gum Trade," in THE INDIA RUBBER WORLD, November 10, 1895—page 43.]

The Chicle season opens early in September, though the yield at this period is limited, and, owing to still copious rains, the *chicleros* (laborers) are retarded in their work; but this is to a great extent a benefit, as rains are favorable to an abundant flow of the sap, provided the rainy season is not prolonged beyond October, in which case sap would contain a larger proportion of water, and the loss in condensation would be heavy and the product inferior. New trees will produce from 15 to 25 pounds of sap, according to size. In order to produce 25 pounds a tree would have to square about 2 feet and be from 25 to 30 feet high.

The process of extracting the sap is extremely primitive. Open V shaped incisions are made in the tree trunks, permitting the sap to flow in a continuous stream. At the foot of each tree a palm or other appropriate leaf is fastened, which acts as a leader or gutter from which the Chicle drips into the receptacle placed to receive it.

The sap as it flows into the incisions is beautifully white, has the consistency of light cream, but as it runs down it gradually becomes more viscous, until, as it drips into the receiving receptacle, it is of the density of heavy treacle. It is very adhesive, and is extensively employed for repairing broken articles and fastening leather tips to billiard cues. When the receptacle is filled it is emptied into a large iron kettle mounted on a temporary stone foundation, with a small opening for wood, the fuel used in the boiling process to evaporate the water, which amounts to about 25 per cent. of the sap. As the boiling progresses the Chicle thickens, and when it has reached the proper consistency it is allowed to settle until a trifle more than lukewarm, when it is kneaded to extract more of the water content, and is then shaped by hand into rough, uneven loaves weighing 5 to 30 pounds. If carefully cooked it is of a whitish gray shade; if carelessly handled and improperly boiled it is a dirty dark gray. When prepared with extra care it is of a light pinkish color. Much deception is practiced by the *chicleros*, who, in order to increase the weight, insert stones, bark, sand, or wood in the boiling Chicle before it is formed into loaves. The sap freshly extracted will weigh about 7 to 8 pounds to the gallon.

Prices in this market range from \$8 to \$15 Mexican currency [\$3.82 to \$7.16] per 25 pounds; last season the average was about \$14 [\$6.38] per 25 pounds.

If a good worker, a *chiclero* can obtain 50 to 75 pounds of Chicle a week, for which he receives 20 cents Mexican [9.54 cents] a pound. As a rule, arrangements to extract the Chicle are made with *capataces* (contractors), who have charge of the men. They receive about 40 cents Mexican [19.08 cents] per pound, and from this price they must feed and pay their employes.

TO TRADE IN RUBBER IN AFRICA.

THE Tanganyika Rubber and Trading Co. of South Africa was mentioned in the July 1 issue of this Journal (page 389) as having been incorporated under the laws of Montana, by Roland H. Creech and others. It appears that Mr. Creech, who resides at Butte, Montana, has spent twelve years in South Africa, doing contract work for the late Cecil Rhodes and the English Chartered Co. Mr. Creech is confident of being able to deal satisfactorily with the natives around Lake Tanganyika and of getting rubber at a cost which will enable his company to make a good profit. Mr. Creech holds a number of concessions and plans to ship produce by Mombasa, on the eastern African coast. This is the first American company in the field referred to.

PROGRESS OF RUBBER PLANTING.

MALACCA RUBBER PLANTATIONS, LIMITED.

THERE has already been recorded in these pages the history of the preliminaries for the acquisition, by a new company to be known as The Malacca Rubber Plantations, Limited, of the important Bukit Asahan rubber estate, in the Malacca settlement, Malay peninsula, founded by the wealthy Chinese merchant Tan Chay Yan, and owned hitherto by The Malacca Rubber and Tapioca Co., Limited, in which Tan Chay Yan is the principal shareholder. The capital of the new company is £300,000 [= \$1,459,950], of which £115,000 is in 7½ per cent. cumulative preference shares and £185,000 in ordinary shares. On January 24, £95,000 in preference shares were offered to the public in London and, it is understood, were subscribed many times over. Details regarding the estate appeared in THE INDIA RUBBER WORLD September 1, 1905 (page 413) and October 1, 1905 (page 15). The prospectus recently issued contains a new statement of the number of rubber trees on the estate which, according to the latest report, is 421,581 *Hevea* and 63,705 *Ficus elastica*. The old company receive £65,000 in cash and £100,000 in ordinary shares and £20,000 in preference shares. Besides, Tan Chay Yan subscribed for £10,000 in ordinary shares. Among the list of vendors appears the names of A. H. Alden and A. W. Stedman, of the crude rubber trade in the United States, who take jointly £10,000 in ordinary shares. The registered office in London is 4, Sun court, Cornhill, E. C., and the secretary J. A. H. Jackson. Mr. P. J. Burgess has been appointed manager of the estate, and from the age of the older plantings it is anticipated that the collection of rubber will not long be deferred.

OTHER NEW RUBBER COMPANIES.

THE Shelford Rubber Estate, Limited, with £65,000 [= \$316,322] capital, has been formed in Glasgow, to acquire and work the "Shelford" estate, in Selangor, Federated Malay States. "The estate extends to 540 acres, 520 of which are fully planted with over 100,000 Pará rubber trees. Of these approximately 10,500 are already of bearing age, and, with the exception of 18,000 trees planted last year, the whole plantation will be in bearing in 1909." The board includes several rubber planters, and William W. Maclellan, of George Maclellan & Co., rubber manufacturers of Glasgow. Macdonald, Stewart & Stewart, C. A., secretaries, 126, Hope street, Glasgow, Scotland.

The Tenom (Borneo) Rubber Co., Limited, has been floated in Glasgow, with £100,000 [= \$465,500] capital, to acquire from Frank Bost, of Glasgow, a grant of 10,000 acres from The British North Borneo Co., with a view to the cultivation in Borneo of *Hevea* rubber. The company plan operations in the Padas valley, in the vicinity of Tenom. The British North Borneo Co. guarantee 4 per cent. dividends for 6 years. Alexander T. Forgie, C. A., secretary, 22, Renfield street, Glasgow, Scotland.

The Rubber Estates of Johore, Limited, is a new London company, with £150,000 [= \$729,975] capital, of which £115,000 in shares were offered February 3, to take over 25,000 acres in Johore (Malay peninsula), granted to Sir Frank A. Swettenham, K. C. M. G., late governor of the Straits Set-

tlements. The development proposed relates largely to planting *Hevea* rubber. Sir Frank will be a director in the new company. H. Eric Miller, secretary, 11, Idol lane, E. C., London, is secretary also of the lately formed Anglo-Malay Rubber Co., Limited, in which Sir Frank Swettenham is a director.

The Brazilian Rubber Plantations and Estates, Limited, is a London company formed to acquire certain estates in the Brazilian state of Ceará, reported to include, besides growing sugar and coffee, with machinery, buildings, etc., plantations of *Hevea* and *Manihot Glaziovii* rubber embracing 400,000 trees 5 and 6 years old. The number of each species is not given. There are also 20,000 *Manihot* trees planted earlier by natives. The capital of the new company is £180,000 [= \$875,970]; shares amounting to £145,000 were offered to the public February 5. The secretary and offices are J. H. Rowntree, 16, Philpot lane, E. C., London.

A LONDON RUBBER BROKER VISITS CEYLON.

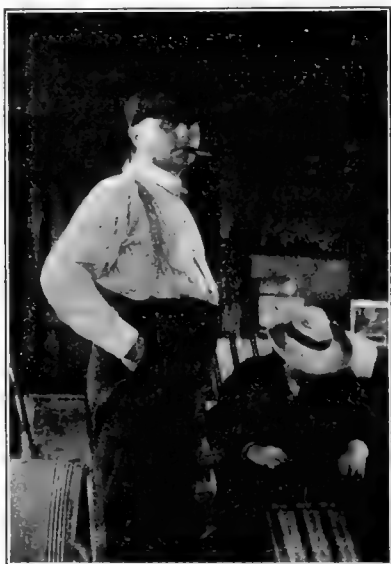
THE *Ceylon Observer* reports a visit to Ceylon of a partner in the firm of Lewis & Peat, who are probably the leading rubber brokerage firm in London, having been interested in that business for about 50 years. The firm, as readers of THE INDIA RUBBER WORLD know, have been favorably disposed toward the cultivation of rubber and Mr. Andrew Oliphant Devitt, the gentleman referred to, went out prepared to study the preparation of rubber on plantations in Ceylon and the Malay States. He was supplied with specimens of all the grades of plantation rubber which had reached London from the Far East, having first consulted the rubber manufacturers at home fully in regard to the various qualities, his object being ultimately to make the planters better acquainted with the ideas of the consumers in regard to the merits of the different grades and of the different methods of preparing rubber. Mr. Devitt, it appears, is not impressed with the idea that any advantage results in the preparation of rubber in "worm" or "crepe" forms. He states that the manufacturers desire that rubber shall reach them in a wholly "raw" form, as they have facilities for washing in their works. Mr. Devitt stated that he was not able to say as yet for what purposes plantation rubber was chiefly used by the British manufacturers. He thought there was no harm in using a little acetic acid for coagulating the latex.

RUBBER INVENTIONS IN CEYLON.

SEVERAL applications for patents, which have been filed at Calcutta, India, relate to inventions in connection with the crude rubber industry. Three recent inventions by Mr. George Smith Brown, an engineer of Talawakele, Ceylon, are as follows: (1) A process and apparatus to assist the flow of latex when a rubber tree is being tapped; (2) a process and apparatus for removing the proteid, sugary, and other objectionable matter from crude rubber, for conversion of the crude rubber into material of uniform quality for rendering the finished rubber "tacky" proof and capable of being rapidly dried; and (3) a process and apparatus for the economical preparation and production of rubber of a uniform quality and for the collection and storing of rubber latex.

A NICARAGUAN RUBBER PLANTER AND TRADER.

MR. JULES AMADEE BELANGER, whose picture appears in connection with this brief sketch—a picture, by the way, that was secured by the writer not long since in Nicaragua, when Mr. Belanger was in the undress uniform peculiar to tropics—is perhaps the best known and most interesting figure in Nicaragua to-day. He is thoroughly American although a British subject, his birthplace being Montmagny, Quebec. He has been in Nicaragua for some seventeen years and for ten years or more has occupied the office of British vice consul. During these years Mr. Belanger has taken a very practical interest in the upbuilding of the business interests of his adopted country, is connected with all of the large mining propositions, and is also a large stockholder in rubber plantations like "Cukra" and the "Manhattan." In addition to this, he is the head of a large trading company known as Belanger's Incorporated, which is perhaps the largest company of its kind and the most successful in Central America. Mr. Belanger is a great believer in the future of rubber planting and has done much to further it, both by



MR. J. A. BELANGER.

investing money and by helping those who were making beginnings at planting. He is a leading spirit of the colony that centers in and about Bluefields and has the respect and confidence of the Nicaraguan government. Personally Mr. Belanger is short, thick set, very energetic, and does not show in the slightest degree the effect of a climate that is so apt to be demoralizing to the white man.

RUBBER PLANTING IN THE PHILIPPINES.

THE *Ceylon Observer* gives some details regarding the Davao Planters' Association, which is described as a "go ahead body of Americans who are doing pioneering in Davao down in the corner of Mindanao," a wild and almost savage region and "jumping-off place" of the island. It appears that some forty Americans have formed a regular colony there and are engaged in planting hemp and cocoanuts, though rubber is attracting keen attention. Some experiments have been made in planting *Hevea* and the *Observer* says: "The plants already growing there are doing well, and there seems to be no reason why the industry should not do as well in the Philippines as in the Federated Malay

States and Ceylon." One Davao planter hopes to form an American company for rubber planting solely. The *Observer* reports the visit to Ceylon of one of the Americans who visited some of the plantations there, and arranged for the purchase of *Hevea* seeds for shipment to the Philippines. The secretary and treasurer of Davao Planters' Association has been appointed assistant to the governor in his province.

A RUBBER LATEX PROTECTOR.

AN application for a Ceylon patent has been made by A. H. Bury, for what he calls a latex protector, the object of which is to protect the tin cups placed on the rubber tree to catch the latex, from rain direct or slanting, or from the impurities in the way of bark, leaves, and the like, that are liable to find their way into the cups. The protector consists of a zinc collar around the trunk of a tree, sloping downwards at an angle of about 45 degrees. The protector has an edging of felt where it fits onto the tree, so as to catch any moisture running down the trunk and allow it to drain off the roof over the latex cup. The collar is fastened with a stud fastening, there being several holes in one end of the collar to allow it to be attached at various times to trees of different girths. The idea is that the new device can be supplied at a cost of a few cents each.

BRAZILIAN PRIZES FOR RUBBER PLANTING.

THE successful cultivation in southern Brazil of the indigenous Ceará rubber (*Manihot Glaziovii*), known locally as "manicoba," has been referred to more than once in the INDIA RUBBER WORLD. The *Brazilian Review* reports:

"The government [of the state of Rio de Janeiro] has decreed a prize of 30,000 milreis, for any one who exhibits 100,000 manicoba rubber trees within 18 months from now, and other 3 prizes of 15,000 milreis, 10,000 milreis, and 5000 milreis, for the three next largest plantations, the smallest of which in order to gain a prize must not be of less than 20,000 trees. It appears that, not to speak of the value of the rubber, the coffee trees benefit greatly by the shade afforded by the rubber trees. This is another of the many instances of Dr. Nilo Pecanha's intelligent efforts and administration. Senhor Mauricio Haritoff, one of the chief initiators of the planting of manicoba, in waiting on Dr. Nilo to thank him for the decree in the name of the planters of this important product, showed an account sales of a consignment to Hamburg which was sold at 7300 reis per kilo." [At the rate of exchange current at the date of this publication, 30,000 milreis would be equal to about \$10,000, gold.]

AFFAIRS IN THE ACRE DISTRICT.

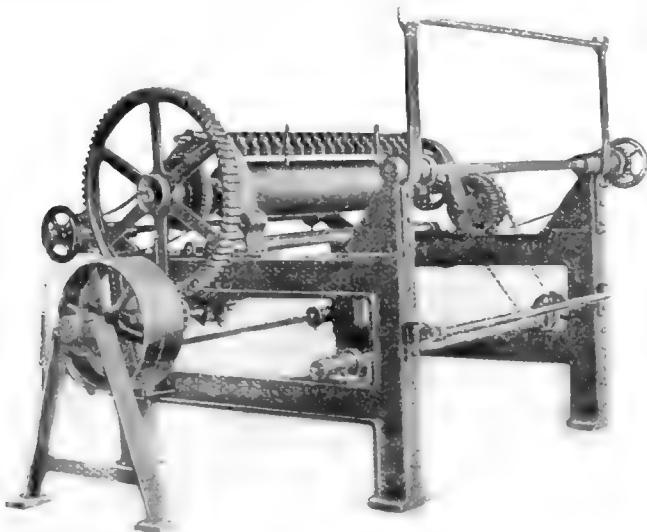
THE *Brazilian Review* (Rio de Janeiro) continues to report an unsatisfactory condition in the Acre district, which, since it was relinquished by Bolivia, has been administered as a Federal territory, from the national capital. The prefects sent out from Rio have failed to gain the sympathies of the people, who regard their rule as despotic. It is reported that the prefect of one of the three districts has been levying heavy additional taxes on rubber, increasing the established duty of 18 per cent. *ad valorem* to 23 per cent. The state of Amazonas is making strenuous efforts to annex the territory, which are being opposed by the people of the district as strongly as they opposed the former rule by Bolivia. What the people really desire is to have the district organized into an independent state.

THROPP'S DUCK SLITTER.

A MACHINE not often found in the small rubber shop is the duck slitter. Its use, however, is such a saver of time, such a pronounced advantage over cutting duck or other fabrics by hand, that it has become indispensable wherever belting is made or any other article manufactured by the rubber trade, containing duck that requires longitudinal cutting, or, in factory parlance, "slitting."

Although machines for slitting duck have been used for many years, there has been little change in their general features, the one illustrated here being one of the latest model. This lack of change or improvement possibly is owing to the machine, leaving little working margin, so to say, for the imagination.

A machine like the one illustrated here will handle duck in any width of weave. The roll of fabric to be slitted is hung upon a detachable bar. The free end of the fabric is carried forward between the knife bar and the cutting cylinder, and attached to the mandril or shell, upon which it is to

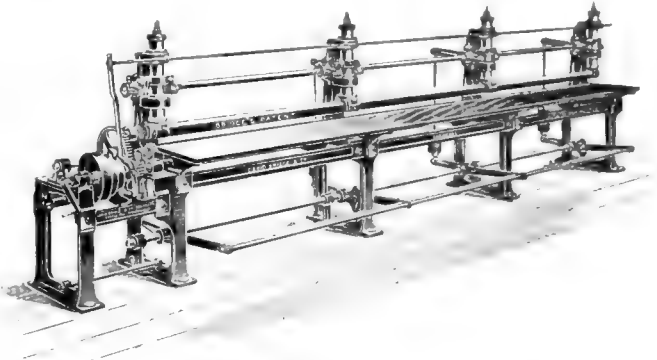


be wound, the power for winding or re-rolling being imparted through the medium of a sprocket chain as shown. The knife bar is hung with adjustable "dogs" or guides, each slotted to hold a knife which is held in place by a set screw. The cylinder over which the fabric passes and which is in reality a cutting table, is of iron, hollow, and sometimes covered with brass. Its surface is cut with longitudinal grooves, $\frac{1}{16}$ inch deep, about $\frac{1}{2}$ inch apart, which engage the point or edge of each cutting blade used, preventing the swerving of the knife, and insuring a straight cut. Any fabric is liable to wrinkle as it is drawn over the cylinder against the knives, and to further prevent this, the "dog" or guide on the edges should be provided with a long curved spring of flexible steel so placed as to press upon the fabric at the point of cutting, thus holding it in smooth contact with the cylinder.

This method admits of slitting the fabric at one operation, to as many strips as may be required. Running at moderate speed, requiring for its operation four to six horse power, upward of 400 yards can be slit in a half hour. The machine shown in the illustration is manufactured by William R. Thropp, Trenton, New Jersey.

WRAPPING MACHINE FOR TIRES.

THE machine illustrated here has been designed specially for wrapping inner tubes for pneumatic motor tires. The machine is on the three roller principle, viz.: with two bottom fixed rollers and one top adjustable rising and falling roller. After the tube has been put on the mandril, a certain length of cloth is wrapped evenly and straight on the tube by the machine. The machine is then allowed to run for a certain time, until the cloth is thoroughly stretched and levelled the whole length of the tube. This manner of wrapping also ensures the tube being of equal thickness and of perfect vul-



canization the entire length. The output of this machine is referred to as being far in excess of the old method of hand wrapping, besides doing its work far better. The pressure is brought to bear on the surface of the material being wrapped on the mandril by a foot rest running full length of rollers in front of the machine. In consequence of the perfect balancing arrangement of the top roller, which is fitted with ball and roller bearings throughout, and the easy working of the machine, it can be operated from any position in front by the attendant quite easily, and any required pressure can be brought to bear on the mandril. The top or pressure roller is adjustable in every way so as to get equal pressure the full length of the rollers. [David Bridge & Co., Manchester, England.]

MR. HOLLOWAY ON "LACE RUBBER."

[FROM THE "CEYLON OBSERVER."]

I NOW have the pleasure of stating that the first consignment of "lace" rubber sent to Hamburg was sold at 14 marks per kilo, or as near as possible 6s. 1 $\frac{1}{4}$ d., about the highest price paid, during the same week, in London for biscuits or sheet. When you consider the fact that lace is ready for packing in 48 hours, and that no expensive machinery is required, no power to drive the machine as in the case of crepe, which requires 8 or 9 HP. (whereas lace requires only about $\frac{1}{8}$ HP.), besides the great saving in labor, the superiority of manufacturing the rubber into the form of lace is apparent. The brokers' report is as follows: "The rubber is reported upon to be first class and is valued at 14 marks per kilo, at which price the parcel has been sold."

The brokers are all mad on sheet rubber just now; but is this practicable on a large estate, where a large acreage is in bearing? For it takes just as long to dry as biscuits, or in fact longer; consequently a very large drying space will be required.

FRANCIS J. HOLLOWAY.

THE OBITUARY RECORD.

GEORGE B. THOMSON.

GEORGE B. THOMSON, who was for many years general agent of the Goodyear Rubber Co., in St. Louis, died at his home in that city on January 27, after a lingering illness. Mr. Thomson had not been in good health for a number of years and had largely relinquished the details of his business position to his assistant.

Mr. Thomson was born in Baltimore, Maryland, February 6, 1839. It is said that he decided early in life upon the rubber goods trade as a basis of his business career.



At the beginning of the civil war he joined the Confederate army, serving on the staff of General Richard ("Dick") Taylor. He served throughout the war, making a good record as a soldier. He then settled in St. Louis, and engaged in the rubber goods business, as agent and

manager of the St. Louis branch of H. G. Norton & Co., an important Easton jobbing house.

In 1872 the Goodyear Rubber Co. (New York) took over the business of H. G. Norton & Co., in St. Louis and elsewhere, and continued Mr. Thomson in his position. Later, when the Goodyear company opened a branch house at Kansas City, this also was placed in charge of Mr. Thomson.

Mr. Thomson became prominently identified with many local enterprises. He was one of the incorporators of the Mercantile Club and thereafter always an active member. It was at his suggestion that the St. Louis natatorium was built—the first institution of the kind in St. Louis. He was also for many years a trustee of the St. Louis College of Physicians and Surgeons. He was clear headed, active in mind and body, with very decided opinions, but in no degree unwilling to change them if he could see the reason why. He was a "Confederate," first, last, and all the time; but a good fellow, and those who were associated with him all the forty years of his rubber business life will miss his genial greeting.

Funeral services were conducted at the late home of Mr. Thomson on January 28, by the Rev. Dr. M. Rhodes, pastor of St. Marks English Evangelical Lutheran Church. The body was cremated in accordance with Mr. Thomson's wishes. Mr. Thomson left no immediate relatives. The funeral was attended by Miss Alice Forney, a first cousin.

"Tijellinhas para Borracha" (the tin cups for gathering rubber used on the Amazon) are advertised by an enterprising Pará tinsmith at largely reduced rates—the first hopeful indication for cheaper rubber from that region for many, many months.

DECISION AGAINST A TIRE POOL.

A DECISION of unusual importance is that rendered by Judge Sanborn, in the United States circuit court for the eastern district of Wisconsin, in the suit of The Rubber Tire Wheel Co. v. The Milwaukee Rubber Works Co., to recover royalties for tires made under United States patent No. 554,675, issued to A. W. Grant for solid rubber tires.

The defenses were that the license contract securing the royalties is denounced as illegal by the Sherman "anti-trust act," making void every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce, among the several states. Also that the royalty contract was invalid under the Wisconsin statute of 1898, prohibiting corporations organized under Wisconsin laws from entering into any combination, conspiracy, trust, pool, agreement, or contract intended to restrain or prevent competition in the supply or price of any article constituting a subject of trade or commerce in Wisconsin. Defendant is a Wisconsin corporation.

In reply to these defenses, the plaintiff argued that they are immaterial, because the articles in question are patented, and the royalties claimed are under a patent monopoly; hence the license came under neither the federal act nor the Wisconsin statute.

In rebuttal the defendants pleaded that the agreements between the parties to the suit were intended to form a combination in restraint of trade; that the patent referred to was believed by all the parties to the agreement to be void; the patent had been so adjudged by the United States circuit court of appeals in the Cincinnati district, and the supreme court had refused to review that decision; that the patent was resorted to as a pretext merely to evade the anti trust laws, and the contracts were meant only to create an unlawful combination, whereby contract prices were raised beyond the natural and legitimate market prices.

The decision of Judge Sanborn, after a review of the terms of the agreements, and of the like agreements made by the owners of the Grant patent with other rubber tire manufacturers, says: "These contracts most clearly make a combination within the Sherman act, if the subject matter be within that act. That is the only question in the case." The long extended litigation over the Grant tire patent [reported in THE INDIA RUBBER WORLD at various times] is then reviewed. There is no implication in the decision that, in the peculiar circumstances of the case, all parties to the agreements may not, in good faith, have believed that the validity of the Grant patent would ultimately be sustained. One result of the litigation to date, however, is that in some jurisdictions the validity of the Grant patent is now recognized, which in others it is not. The sum of the decision in brief is that—

In two important ways the provisions of these contracts attempt to secure results not contained within or flowing from the lawful monopoly of the patent. First, they raise and maintain prices, and restrict trade and interstate commerce, in Michigan, Ohio, Kentucky, and Tennessee, where the patent monopoly has no practical existence; second, they create a fund for crushing competition in interstate commerce throughout the whole country, as well in the sixth circuit as elsewhere, and not only competition in the Grant tires between outside manufacturers and those who are in the combination, but competition of all other rubber tires against the Grant tire.

Having thus decided that the case comes within the scope of the federal law, the court deems it unnecessary to consider the effect of the anti trust law of Wisconsin. The suit claimed royalties in the sum of \$4109.42, but after deducting certain offsets, the plaintiff, if entitled to recover, should have had judgment for \$2517.66, with 6 per cent. interest.

THE SEASON IN RUBBER FOOTWEAR.

WHEN the country roundabout New York is visited by a winter such as the present memorable one, it means many things. To the rubber trade it would be expected to mean first of all a great falling off in the sale of rubber footwear. No one could foretell that there was to be an almost total absence of snow, consequently the usual supply of the heavier winter goods was laid in by dealers. In fact many merchants, having in mind the severe winter of 1904-05, bought much more liberally than usual. The result is that instead of sending in the usual number of duplicate orders, the store shelves still contain heavy rubber boots and shoes. This condition, indeed, prevails throughout the greater part of the United States, with the exception of a strip extending from the eastern half of New England to the Far West, at no point reaching more than a hundred miles or so from the Canadian border. This upper ribbon of territory has had enough snow to warrant dealers laying in their usual stocks of heavy goods, most of which will undoubtedly be sold before summer. But this is only a drop in the bucket when compared with the rest of the great territory covered by the wholesalers and jobbers of rubber footwear.

There is cause for a more optimistic view of the trade in regard to light rubbers. This takes in women's and children's shoes, which comprise a very large majority of the rubber footwear sold. Of this class of goods the sale this winter has not been so large as in former years, yet the falling off has not been so great as might be imagined. The reason for this is that the average woman fears dampness as much as she does snow, and takes precautions against wet feet even when the sidewalks are only damp from rain or fog.

With a view of ascertaining just how hard the rubber shoe trade in New York had been hit by the open winter, an INDIA RUBBER WORLD representative interviewed some of the leading New York jobbers and retailers. The manager of the shoe department of a large department store declared that when the season was ended the books would show that his house had sold more rubber shoes of the lighter grades than last year. The sale of boots had fallen off heavily, he said, and there had been a decrease in the sale of arctics and heavy weights.

At a large retail store it was said that while the final inventory at the close of the season might show a smaller volume of business in rubber shoes than last year, the decrease would be much less than would naturally be expected in view of the open winter. The manager said that he would carry over but little stock to next winter. "One thing to bear in mind is that people are learning more and more that good health depends largely on keeping the feet dry," said he. "That means that more people are wearing rubbers each year. Where one man gives up the practice, half a dozen women take it up, and more than that, many mothers who heretofore have paid no attention to this subject, now see to it that their children's feet are kept dry by means of rubber

shoes. So you see that while trade in one line grows less, the loss is more than made up in other lines. On the whole our trade this winter has been satisfactory."

The story in the jobbing trade was substantially the same. While the business as a whole had not been what was desired, the total sales for the season would not be so far below that of last year as was generally supposed. One jobber voiced the sentiments of the trade when he said that there was plenty of time to "catch up" before the season closed. Early sales were heavy. Then came a lull, with a material absence of duplicate orders such as have been the rule in other years. This was followed by a lively spurt in the latter half of winter.

In the second week in February there came to New York and its vicinity the first real snowstorm of the winter, with a fall of something more than 4 inches. Immediately there was a brisk revival of the rubber shoe trade, which was accentuated by a week or so of warm weather and rain which transformed the snow into slush and water. This was a boon to many of the retailers who had still on hand a stock of heavy rubbers and some of them were cleaned out.

THE TRADE IN CANADA.

A REPORT from Canada which reaches THE INDIA RUBBER WORLD is prefaced with the remark that "it is just as well to let the rubber trade know the facts, as the impression is gaining ground in the United States that Canada is simply a gold mine for rubber men." Our correspondent writes:

"The present winter is the mildest experienced for a great many years, and has considerably retarded the sales of rubber footwear throughout Canada. The shrinkage in sales of all companies is very marked, and merely goes to emphasize the point that everything depends on the severity of the winter here to put sales above the normal standard. Up to the present there has been very little snow, and whilst in past years large sales of footwear have been effected, in the three months just gone by this year results have been extremely disappointing. The time for actual winter conditions has practically gone by, and it will only be due to an abnormally severe ending to the present winter, that sales will reach anything like their normal condition."

NAVY SPECIFICATIONS FOR GASKETS.

A SPECIFICATION issued by the United States navy department requires that the compound shall contain not more than 3.5 per cent. of sulphur, and not over 1 per cent. of resin. In the methods of analysis used all sulphur in the goods whether in the form of free sulphur, sulphur combined with the rubber, or in the form of sulphates, is estimated as sulphur. So that a compound containing 25 per cent. of barytes and 2 per cent. of sulphur would be condemned, while one containing 25 per cent. of whiting and 3.5 per cent. of sulphur would be passed as all right. The 1 per cent. of resin is also an impossible requirement, since the amount of resins extracted by acetone steadily increases with the vulcanization. If the rubber used contained 1 per cent. of resin the vulcanized material will be found to contain from 3 to 5 or more per cent.

S. P. S.

DAVID MOSELEY & SONS, LIMITED, (Manchester, England) are experimenting with a new solid rubber tire for motor buses.

RECENT RUBBER PATENTS.

UNITED STATES OF AMERICA.

ISSUED JANUARY 2, 1906.

- N**O. 808,666 Protector for boots and shoes. [Described in THE INDIA RUBBER WORLD, February 1, 1906—page 167.] C. W. Linthicum, assignor to G. S. Linthicum, both of Baltimore, Md.
- 808,683. Golf ball. F. H. Richards, Hartford, Conn.
- 808,713. Ball [for golf]. R. Appleyard, Silvertown, England.
- 808,721. Non skidding device for tires. C. R. Bullard, St. Ives, England.
- 808,765. Wheel structure. [Involving a solid tire of fibrous material.] J. Ledwinka, Detroit, Mich., assignor of one-half to C. Berg, Cleveland, Ohio.
- 808,775. Packing. [Composed of alternate laminæ of fabric and rubber.] J. Ostrander, Indianapolis, Ind.
- 808,880. Fountain pen. J. A. L. Snyder, Somis, Cal.
- 808,933. Rubber horseshoe. A. Lang, Eden, N. Y.
- 808,948. Overshoe. A. E. Roberts, Norwalk, assignor to N. P. Bowler, Cleveland, Ohio.
- 808,974. Protector for pneumatic tires. [A series of independent narrow metallic strips secured outside the tire.] H. David, Paris, France.
- 809,034. Golf ball. W. T. Thomas, Chicago.
- 809,035. Golf ball. *Same*.
- 809,040. Vehicle wheel [having two hubs, one surrounding the other with an intermediate pneumatic tube]. M. G. Babio, New York city.
- 809,056. Eraser holder [to be secured to the end of a pencil]. F. W. Hayes, Detroit, Mich.
- 809,141. Hot water bottle. E. J. Schutz, Akron, Ohio.
- 809,142. Hot water bottle. *Same*.
- 809,143. Method of making hot water bottles. *Same*.
- 809,144. Horseshoe [with inflatable rubber pad]. J. Singleton, Manchester, England.

Trade Mark.

- 6,324. Rubber water bags and rubber water bottles. The Seamless Rubber Co., New Haven, Conn. *Essential feature*.—A conventional fleur-de lis with the letters S R C, one letter appearing on each leaf.
- 6,745. Rubber substitutes. The Dermatine Co., Ltd., London, England. *Essential feature*.—The word DERMATINE on a scroll and the representation of a hippopotamus.
- 11,985. Rubber erasers. Eagle Pencil Co., New York city. *Essential feature*.—The representation of an eagle with outstretched wings holding pencils in its beak and talons.
- 14,025. Hose pipes, nozzles, gates and couplings. Eureka Fire Hose Co., Jersey City, N. J. *Essential feature*.—The word EUREKA.

ISSUED JANUARY 9, 1906.

- 809,276. Harness lining and pad and the like [with inflatable pads]. E. M. Aulton, Bushbury, England.
- 809,311. Fireproof wire. A. M. Lougee, Boston.
- 809,312. Process of making fireproof conductors. *Same*.
- 809,313. Protected conductor. *Same*.
- 809,409. Pneumatic tire. P. W. Tillinghast, Edgewood, R. I.
- 809,530. Flexible tire cover. W. A. Sankey, Sutton, assignor to F. Reddaway, Manchester, England.
- 809,533. Wheel rim [for pneumatic tires]. C. S. Scott, Cadiz, assignor of one half to F. A. Seiberling, Akron, Ohio.
- 809,537. Tire for wheeled vehicles. [Two rows of steel springs, attached to the wheel rim are connected by metallic bridge pieces which serve as the tread; between the rows of springs is a pneumatic tube.] F. H. Sterling, London, England.
- 809,581. Packing. C. Restein, Philadelphia.
- 809,622. Shoe [with waterproof protector between welt and upper]. J. N. Moulton, Haverhill, Mass., assignor to The Waterproof Welt and Filler Co., Hartford, Conn.
- 809,623. Waterproof sole. J. N. Moulton, Philadelphia, Pa., assignor to J. R. Reynolds, Hartford, Conn.
- 809,641. Vehicle tire. [Solid rubber.] J. A. Swinehart, Akron, Ohio.

- 809,650. Combined hot water bag and syringe. M. Van Tassel-Beck, assignor of one half to E. E. Bellamy, both of Cleveland, Ohio.
- 809,713. Waterproof shoe. P. G. Mayhew, Grand Rapids, Mich.
- 809,746. Hose coupling. S. M. Rhoades, Philadelphia.
- 809,759. Hose coupling. R. Toole and J. J. McDonnell, Portage, Pa.

Trade Marks.

- 5,170. Rubber hose. Gorham Rubber Co., San Francisco. *Essential feature*.—The word AMAZON.
- 6,325. Rubber nipples for nursing bottles. The Seamless Rubber Co., New Haven, Conn. *Essential feature*.—A picture of Geraldine Doyle.
- 7,641. Rubber heels for boots and shoes. P. F. Minor & Co., Batavia, N. Y. *Essential feature*.—The word READEASY.
- 9,531. Rubber insulating compound. The Okonite Co., Ltd., New York city. *Essential feature*.—The word OKONITE.
- ISSUED JANUARY 16, 1905.
- 809,947. Bathing hat. F. E. Herndon, Dallas, Texas.
- 809,964. Cushion tread and the like for boots and shoes. L. R. Lucherterhand and H. W. Newton, Boston.
- 809,986. Tire and other valves. G. H. F. Schrader, assignor to A. Schrader's Son, Inc., both of New York city.
- 810,060. Packing case [for carrying explosives]. G. H. Leathers, Howard, Pa.
- 810,061. Pneumatic cushion wheel [having a rigid inner portion and a rigid outer portion, with a circular pneumatic cushion between]. C. A. Lee, assignor of one half to A. J. Holzmark, both of Kansas City, Kan.
- 810,257. Blowpipe [having a storage bulb, a pressure bulb, and elastic tubes]. W. M. Bradley, New Haven, Conn.
- 810,284. Fountain pen. F. M. Kegrize, Philadelphia.
- 810,327. Fountain pen. M. R. Crossman, Boston.
- 810,354. Hose coupling. M. L. Scanlon, J. S. Scanlon, and A. A. Arnold; said M. I. Scanlon and J. S. Scanlon assignors of one fourth of their right to M. E. Scanlon, all of Gallon, Ohio.

Trade Mark.

- 10,969. Air cushioning heel and pads and insoles for boots and shoes. The Comfort Heel Cushion Co., Philadelphia. *Essential feature*.—The word AIREZE.

ISSUED JANUARY 23, 1906.

- 810,419. Attachment for vehicle wheels [adjusted to the tire, to prevent skidding]. G. W. Kirkpatrick, Rochester, N. Y.
- 810,420. Attachment for vehicle wheels. *Same*.
- 810,470. Fountain brush. E. C. Davey, Chicago.
- 810,510. Belt conveyor. T. Robins, Jr., New York city, assignor to Robins Conveying Belt Co.
- 810,526. Wheel for vehicles. [Instead of having felly and spokes, this wheel is composed of segmental sections, with their sides fitting against each other tangent to the bore of the wheel, and vulcanized rubber inserted between said sections.] T. Gare, New Brighton, England.
- 810,605. Conveyor. C. K. Baldwin and T. Robins, Jr., New York city, assignor to Robins Conveying Belt Co.
- 810,689. Infant's diaper. W. R. Way, Columbia, S. C.
- 810,690. Bird kite. P. Weiss, Highland Falls, N. Y.
- 810,769. Inhaler. E. C. Jones, Woodstock, Canada.
- 810,784. Stopper for ice bags, helmets, and the like. C. W. Meinecke, Jersey City, N. J., assignor to Whitall Tatum Co., New York city.
- 810,842. Artificial denture. J. M. Card, Olean, N. Y.
- 810,885. Massage applicator. E. S. Saighman, Chicago.
- 810,888. Vehicle tire. [Pneumatic.] C. Stein, Akron, Ohio.

Trade Mark.

- 12,103. Tennis shoes. Hood Rubber Co., Boston. *Essential feature*.—The word GR:YHOUND and the illustration of a greyhound.

ISSUED JANUARY 30, 1906.

- 810,921. Tire for vehicle wheels. A. Dewes, New York city.
- 810,944. Elastic tire. J. E. Hopkinson, West Drayton, England.
- 811,000. Gasket. V. Tompkins, Jersey City, N. J.
- 811,021. Fireman's protective dress. C. W. Wood, New Orleans, La.

- 811,026. Tire heater. E. Bancroft, assignor of one half to C. M. Milroy, both of Toledo, Ohio.
- 811,039. Storm front for vehicle tops. C. C. Daugherty, Columbus, Ohio.
- 811,109. Pneumatic tire. F. Veith, Höchst-in the Odenwald, Germany.
- 811,111. Syringe. G. C. Wegefath, Baltimore.
- 811,232. Vehicle tire. J. Lang and A. Fischer, Chicago.
- 811,343. Hose Clamp. W. C. Walker, Battlecreek, Mich.
- 811,345. Tire protector. H. Waxman, New York city.
- 811,406. Air goods. [Mattresses and the like.] H. F. Keil, Bronxville, N. Y.
- 811,413. Hose supporter. [For hosiery.] A. B. Kurtz, Connellsville, Pa.
- 811,490. Pneumatic tire. J. M. Elder, Indianapolis, Ind.

Trade Mark.

- 5,858. Suspensory bandages and jock straps. The S. H. Wetmore Co., New York city. *Essential feature.*—The word CENTURY.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each, postpaid.]

GREAT BRITAIN AND IRELAND.**PATENT SPECIFICATIONS PUBLISHED.**

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1904.

* Denotes Patents for American Inventions.

[ABSTRACTED IN THE OFFICIAL JOURNAL, DECEMBER 30, 1905.]

- 19,617 (1904). Pneumatic tire. [The ends of a non continuous air tube are closed by means of projecting caps adapted to engage when fitted to the wheel and inflated.] T. W. Haswell, Hartlepool, Durham.
- 19,761 (1904). Anti slipping belt, of leather, for pneumatic tires. J. Hopper, Fulham road, Middlesex.
- 19,788 (1904). Tire cover with resilient core. B. Marks, Southport, Lancashire.
- 19,803 (1904). Catheter. J. E. Arnold, London.
- 19,837 (1904). Chain armor for pneumatic tires. E. B. Hazleton, Sheffield.

[ABSTRACTED IN THE OFFICIAL JOURNAL, JANUARY 10, 1906.]

- *19,928 (1904). Pneumatic tire. [The tread portion of the cover is enlarged and has embedded in it wire fabrics.] H. E. Irwin, Galesburg, Illinois.
- 19,947 (1904). Tread band for tires [made of leather]. H. Garner, Nantwich, Cheshire.
- *19,986 (1904). Fountain pen. [For lettering; consists of a tip secured in a tubular barrel fitted with a rubber bulb.] C. C. Clement, Boston, Massachusetts.
- 20,026 (1904). Tire of steel plates, with cover of rubber. R. K. Hearn, The Downs, Wimbledon.
- 20,080 (1904). Pneumatic tire and means of attachment to rims. A. T. Collier, St. Albans, and Collier Tyre Co., London.
- 20,081 (1904). Pneumatic tire. [Comprises twin parallel air tubes joined by a leather tread.] *Same.*
- 20,144 (1904). Pneumatic tire. [An annular air chamber engages between discs attached to the hub; the tread is of molded rubber.] D. B. Hislop, Aberdeen.
- *20,235 (1904). Bathing cap [thin waterproof material.] A. G. Brooks, London. (C. J. O'Hern, and P. H. Crowley, both of Hyde Park, Massachusetts.)
- *20,259 (1904). Rim for pneumatic tire. O. L. Pickard, Chicago, Illinois.
- 20,283 (1904). Form for molding teats. [The glass is constricted to form a beaded neck when the edge is rolled up and the rubber vulcanized.] J. Dowell, London.
- 20,397 (1904). Pneumatic tire [protected from puncture by a layer of leather in the tread]. J. Edmondson, Burscough, Lancashire.
- 20,415 (1904). Spray producer and disinfectant. J. C. Staples, Birmingham.

[ABSTRACTED IN THE OFFICIAL JOURNAL, JANUARY 17, 1906.]

- 20,460 (1904). Elastic tire. [The wheel comprises two metal rims separated by wedge shaped stays with holes in the outer rim, through which rubber blocks are made to project.] B. T. L. Thomson, Clapham common, Surrey.

- 20,578 (1904). Heel protector. W. Bairstow, Bloomfield Belfast, Ireland.
- 20,635 (1904). Wheel for heavy trucks, with solid rubber tires. S. T. Richardson and R. Price, Birmingham.
- 20,673 (1904). Anaesthetizer. E. C. Jones, Woodstock, Ontario, Canada.
- 20,721 (1904). Elastic tire [comprising rubber blocks spaced around a metal rim and secured by detachable plates formed with ribs which enter recesses in the blocks]. B. T. L. Thomson, Clapham common, Surrey.
- 20,763 (1904). Boot soles and heels. T. Burrell, Victoria, Australia.
- 20,796 (1904). Ball and float valve. F. Robinson, Sneinton, Nottingham.
- 20,865 (1904). Cover of untanned hide for pneumatic tires. E. Zohlou, Crefeld, Germany.
- 20,887 (1904). Pneumatic tire [with metal rim to protect the tread]. R. E. H. James, Camberley, Surrey.
- 20,888 (1904). Pneumatic tire. [The cords in tires or tire covers are so arranged that they lie closely together at the tread.] T. Sloper, Devizes, Wiltshire.
- 20,950 (1904). Waterproof dress. L. M. Climpson, London.
- 20,972 (1904). Elastic tire [of resilient metallic rings, through which an air tube may be placed; or the tube may be dispensed with]. V. Gueldry, Paris, France.

[ABSTRACTED IN THE OFFICIAL JOURNAL, JANUARY 24, 1906.]

- 21,114 (1904). Pneumatic hub. [An inflatable tube secured to a ring fitting a sleeve, is boxed in by flanges and a spoke drum which is free to move transversely to the axle for a limited distance and is provided with side plates.] G. Middleton, London.
- 21,153 (1904). Hose cradle. [To prevent hose pipes from kinking.] H. C. Sparks, Brighton.
- 21,177 (1904). Feeding bottle [with vent of rubber tubing]. M. D. Armstrong, Forest Gate, Essex.
- 21,267 (1904). Device for detecting tire punctures. S. E. Bazley, Northampton.
- 21,358 (1904). Pneumatic tire [prevented from puncture by curved plates of leather or other material, fastened to canvas so as to form a continuous band]. E. S. Fardell, Norwich.
- 21,443 (1904). Elastic tire. [A thick flexible tube with orifices which register with corresponding orifices in the rim to allow free communication with the atmosphere.] W. G. Ward and G. Edson, both of Hodthorpe, Whitwell, and G. W. Bell, Whitwell, Derbyshire.
- *21,473 (1904). Non-slipping tread for pneumatic tires [formed of sections consisting of a rubber strip with an embedded fabric]. L. P. Faison, Golconda, Nevada.
- 21,543 (1904). Pneumatic tire. [Armor plates for preventing side slip and puncture are riveted to a leather band, situated in a groove in the tread.] G. Desclee, Laeken, Belgium.
- 21,550 (1904). Sole and heel protector. [The rubber basepiece is provided with a series of studs molded integrally with it.] A. Briggs, Market Harborough, Leicestershire.
- 21,552 (1904). Non-skidding cover for tires. [Comprises notched leather and metal links secured together by pins.] E. Fairburn, Brighouse, Yorkshire.
- 21,559 (1904). Waterproof cloak. S. L. Mandleberg, Pendleton, Manchester.

[ABSTRACTED IN THE OFFICIAL JOURNAL, JANUARY 31, 1906.]

- 21,620 (1904). Pneumatic tire. [To facilitate the removal of a punctured tire and replacing it with a new one the tire is carried by a removable outer ring with a channel and safety nuts fastened to the inner part of the wheel by bolts.] G. Jonas, Hyde Park, London.
- 21,654 (1904). Air cushions and springs for seats, mattresses, etc. A. Pulbrook and E. H. Pulbrook, Hammersmith, Middlesex.
- 21,671 (1904). Heel protector. T. T. Spencer, New Barnet, Herts. and J. L. Tanner, London.
- 21,772 (1904). Pneumatic tire. [Metallic studs fastened to an exterior leather cover are used to prevent puncture.] C. Vadon, and J. F. A. Tabard, Lyons, France.
- 21,820 (1904). Heel protector. H. Markus, Manchester, and Barnwell Machine Co., Droylsden Rubber Works.
- *21,861 (1904). Horseshoe [with elastic tread portion]. C. A. Allison, London. (F. D. Palmer and G. H. Gillette, New York city.)

- 21,716 (1904). Pneumatic tire. J. H. Clark, Elgin, Scotland.
 21,864 (1904). Surgical swab. L. V. Jones, London.
 *21,869 (1904). Dress shield. G. Lanzendorfer, Jamaica Plain, Massachusetts.
 21,870 (1904). Cap [with two gussets of elastic web inserted in the seams]. M. Schneiders, Whitechapel road Middlesex.
 21,899 (1904). Apparatus for vulcanizing tires. H. H. Frost, London.
 21,959 (1904). Pneumatic tire [with solid or cushion tire secured to the tread portion of the cover to form the wearing surface]. J. G. Young, Coleraine, Ireland.
 22,026 (1904). Cover for tires [comprising bands of metal]. O. Latimer (trading as Standard Motor Tyre and Rubber Mfg. Co.) Birmingham.
 22,066 (1904). Appliance for extracting dust from carpets. T. W. Ford, Westminster, Middlesex.

THE FRENCH REPUBLIC.

PATENTS ISSUED (WITH DATES OF APPLICATION.)

- 355,660 (June 27, 1905). R. North. Wearproof tire.
 355,810 (July 1). A. P. L. Francowich. Wear-proof tread for pneumatic tires.
 355,922 (June 29). S. Henry. Wearproof tread for pneumatic tires.
 355,968 (July 7). G. Raillart. Protector for pneumatic tires.
 355,972 (July 7). R. Forget. Pneumatic tire.
 355,802 (July 5). F. Sozer. Improvement in rubber and other materials.
 356,165 (July 13). E. Gorgeat. Tire tube protector.
 356,218 (July 18). E. Fairburn. Anti skid for tires.
 356,245 (July 19). Continental Caoutchouc and Gutta Percha Co. Protector for pneumatic tires.
 356,270 (June 27). J. P. Crane. Rubber compound.
 356,271 (June 28). The St. Helens Cable Co., Ltd., Rubber tire.
 356,293 (July 20). W. Krische. Tire for road vehicles and railroad trains.
 356,306 (July 21). W. R. Sine and J. S. Rosenthal. Improvement in making telephone receivers and other articles of hard rubber.
 356,333 (July 22). E. F. H. Prugnaud. Detachable elastic tire protector, held on by regulated tension.
 356,328 (July 22). M. Sandri. Pneumatic cushion for any kind of shoe.
 356,426 (July 26). W. Strüick. Solid tire with bedded cross wires.
 356,435 (July 24). A. Rattier. Pneumatic tire.
 356,443 (July 27). J. A. Goffin. Anti skid tire protector.
 356,663 (April 19). Mrs. Basch and S. Basch. Pneumatic tire.
 356,684 (August 4). Y. Clifford. Improvement in tires.
 356,707 (August 5). P. W. Pratt. Improvements in rubber heels for shoes.
 356,800 (August 10). Société Générale des Etablissements Bergougan et Cie. Method of attaching solid tires to metal rims.
 356,855 (July 26). L. H. Aloir. Puncture proof leather tread.
 356,874 (August 7). G. F. Butterfield. Tread made of leather, rubber or other substance.
 356,917 (August 12). F. J. Chary. Elastic tire.
 356,958 (August 17). Francioni et Paquet. Tire proof against punctures, rim cutting and skidding.
 356,985 (August 18). Ybertz et Meriguoun. Elastic tire.
 357,010 (August 17). A. MacLean. Pneumatic tire protector.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Bobet, Ingenieur-Conseil, 10 avenue de Villiers, Paris, at 50 cents each, postpaid.]

CHICLE is pronounced chick'-lee in the trade, ché-kla by Dorland's Medical Dictionary, and so as to rhyme with pickle by the Century Dictionary. It is not found in the regular pronouncing vocabulary in the Standard and nowhere by us in Webster's, so each of us may choose his own pronunciation of the word.—*Druggists' Circular*.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values of exports of manufactures of India-rubber and Gutta-percha, for the month of December, 1905, and for five calendar years :

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
December, 1905 ..	\$ 115,957	\$ 206,442	\$ 211,349	\$ 533,748
January-November	1,066,804	1,185,420	2,619,526	4,871,750
Total.....	\$1,182,761	\$1,391,862	\$2,830,875	\$5,405,498
Total, 1904....	890,076	1,226,772	2,341,039	4,457,887
Total, 1903....	857,634	991,351	2,511,980	4,360,965
Total, 1902....	738,257	1,065,592	2,011,905	3,815,754
Total, 1901....	608,116	974,018	1,743,882	3,326,616

SHIPMENTS TO NON CONTIGUOUS TERRITORIES.

DESTINATION.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTALS.
<i>Alaska :</i>				
1903.....	\$32,351	\$ 88,331	\$17,248	\$137,930
1904.....	44,363	130,552	19,337	194,252
1905.....	74,846	168,063	29,431	272,340
<i>Hawaii :</i>				
1903.....	\$37,322	\$ 7,386	\$30,169	\$74,877
1904.....	29,439	12,036	34,089	75,564
1905.....	25,035	6,624	46,395	78,054
<i>Porto Rico :</i>				
1903.....	\$ 8,545	\$811	\$16,074	\$25,430
1904.....	8,776	269	16,814	25,859
1905.....	14,608	782	27,510	42,900
<i>Philippines :</i>				
1903.....	\$23,044	\$2,576	\$35,261	\$60,881
1904.....	36,826	7,684	42,444	86,954
1905.....	18,981	4,971	33,474	57,426
<i>Totals :</i>				
1903.....	\$101,262	\$ 99,104	\$ 98,752	\$299,118
1904.....	114,231	150,541	113,049	377,821
1905.....	133,470	180,440	136,810	450,720

THE FACTORY "BY SOME MADE FUN OF."

A REPORT of the Durango, (Colorado), board of trade says: "The rubber factory, talked of and by some made fun of, is here and seventeen expert machinists are installing \$350,000 worth of machinery, while the experimental farm of 1280 acres has been secured for the cultivation of the weed. The company will use the pulp, after the rubber has been extracted, in the manufacture of stock food, and the very worst of the leavings will be combined with nitroglycerine in the making of power. The cotton which grows around the crown of the plant will be shipped and made into shoddy wearing materials and the making of pillows." The report does not state whether the rubber in question will be natural or artificial.

Referring to the presence in Washington of Mr. E. C. Dunbar, the leading spirit of the Durango enterprise, a despatch to the *Denver Republican* says that he "has carried on a series of successful experiments in a small way and believes that with good government aid a valuable and extensive industry in the production of rubber might be established and maintained in Colorado." And an editorial writer in the *Denver paper* indulges in this shaft of humor :

There is no connection between the appeal for government aid for the rubber industry of Colorado and that of Banker Schiff of New York for an elastic currency.

NEW GOODS AND SPECIALTIES IN RUBBER.

THE CLEVELAND SOFT RUBBER RING.

THE brilliant lighting of our American cities is one of their characteristic features. In the larger cities certain streets at night are a perfect blaze of light, owing to the countless signs and decorations in white and colored electric lights. These displays are made

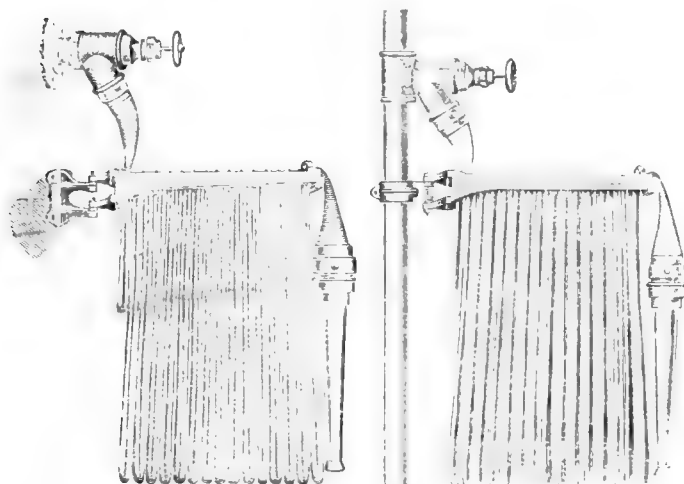


of numerous electric bulbs, which are not very expensive in themselves, but are often very hard to replace, when they burn out. Being out in all kinds of weather, water is apt to leak in through the joint, causing short circuits; or it is liable to freeze afterwards and injure the plaster in the joint, or do other damage. The

Cleveland soft rubber ring is designed to protect incandescent bulbs which are thus exposed to the weather. These rings are put over the bulb before it is screwed into the holder, and absolutely prevent dampness or anything from entering the joint, which it hermetically seals. They are no trouble to put on, and add considerably to the life of the bulb, besides preventing short circuits, which are such a prolific source of fires. The rings come in seven different sizes, to fit any style of lamp, and are made with a flat, round, square, shouldered, or elliptical section. The same company also make a good line of valve discs. [Cleveland Rubber Works of the Mechanical Rubber Co., Cleveland, Ohio.]

BOWES HOSE RACK.

THERE is always a market for a convenient and practical hose rack for factories, warehouses, stores, office buildings, apartment houses, and other structures where an effort is made to observe the ordinary precautions against fire losses. One of the newest things in that line is the Bowes hose rack, which is illustrated here in two styles of attachment. Be-



ATTACHED TO WALL.

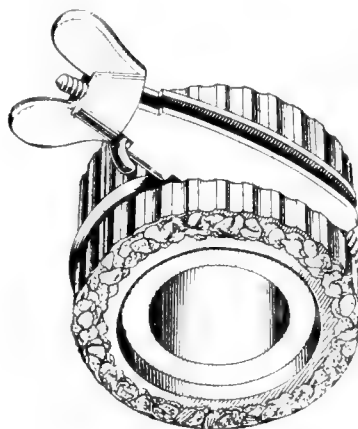
ATTACHED TO STAND PIPE.

sides its undoubted utility this rack has the added merit of being simple and comparatively inexpensive. Any hose rack is good, but some are better than others. It is to this

latter class that the Bowes properly belongs. It is a pin rack, and by a clever arrangement the pins are so placed that the pins are caught by a latch when the hose is payed out instead of falling to the floor. The accompanying illustrations show the rack affixed to the wall of a building, and also as attached to a standpipe. Enough pins are furnished so that the hose may be hung in loops about 24 inches long. It is important that when you reach the end of the hose to see that the hose goes over the next to the last wire, under the last wire and over the latch, which is then put in position. The hose is then ready for use. In case of emergency by seizing the nozzle and pulling on the hose the latch becomes detached and falls in a perpendicular position. The hose immediately pays off the rings or wires, which wires do not drop to the floor, but are caught by the latch. Patents have been applied for. [W. D. Allen Manufacturing Co., New York and Chicago.]

A NOVEL HOSE COUPLING.

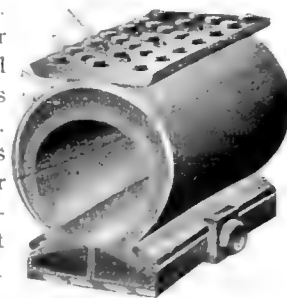
A hose coupling that is made upon novel lines, and which has the merit of combining utility with economy, is the result of the inventive genius of Mr. B. Morgan, of Newport, Rhode Island. Its distinctive feature consists of its being made in one piece and is adjustable to several sizes of hose, a point that will appeal to dealers as it enables them to materially reduce their stock. The Morgan hose coupling is especially adapted for motor boats and automobiles, where the need of such an



appliance usually is most urgent and where it is essential that it be adjusted quickly as well as easily. The smaller couplings are made with brass fittings and the larger ones with steel. A patent has been applied for.

HEALY LEATHER COVERED TIRE.

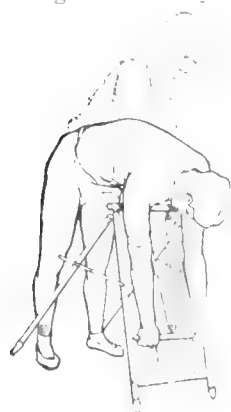
THIS tire, invented by Mr. Raymond Healy, is really a jacket and shoe of leather which may be adjusted to any pneumatic tire of standard make. The leather is made especially for the Healy tire and is tanned and prepared by a process which is also the invention of Mr. Healy. The peculiarity of the invention is that the leather is clinched under the rim, which makes it impossible for the leather to "peel" at the edges and prevents rim cutting. By taking the strain of the additional cover from the rim the tire is substantially strengthened. A leather tread attached to the leather tire cover is equipped with steel rivets which act as an effectual preventive of skidding and slipping, thus reducing to a very low



minimum the liability to puncture. During the two years the Healy tire has been on the market not a single puncture has been reported. One of the points of superiority claimed for the Healy tire is that the rivets affixed to the shoe are so arranged that they do not carry heat to the rubber part of the tire. The leather going clear to the end of the clinch bead, and the union of the leather and tire being perfect, the strength and durability of the whole are materially increased. A strong guarantee is given with each tire. [Healy Leather Tire Co., Nos. 88-90 Gold street, New York.]

BAILEY'S RUBBER EXERCISER.

A CHEAP and efficient exerciser for the back has just been brought out. Bailey's Rubber Exerciser is a light portable frame

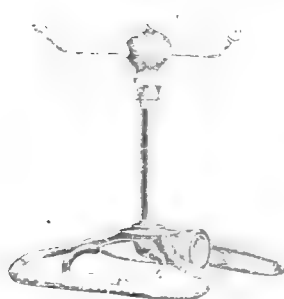


36x20 inches, taking up no more room than a chair, and can be used in the bed room. An exercise, similar to that of sawing wood, is gained by pushing downward a bar held by stout, elastic cords. This motion is recommended for its good effects upon the back, chest and abdomen. It is the exact opposite of rowing, calling on a set of muscles that are ordinarily hard to train up. It is referred to as being especially good for the stomach, bowels, and liver, curing indigestion, insomnia, and vertigo. Even where

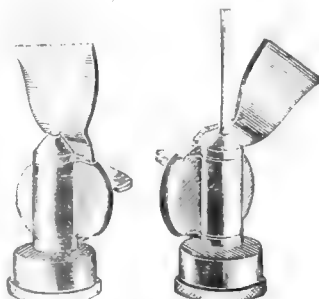
such troubles are not felt, the Exerciser has a valuable effect in distributing the fat which tends to gather about the successful, middle aged waist. [C. J. Bailey & Co., No. 22 Boylston street, Boston.]

NOVELTIES IN LAWN SPRINKLERS.

THROUGH their New York branch, the W. D. Allen Manufacturing Co. (Chicago) will offer the Eastern trade this season for the first time, several novelties in lawn sprinklers and other rubber hose accessories. One of these is the Gibbs Spray Nozzle. The shut-off is positive, because it is made by a washer against the shoulder



MAYFLOWER



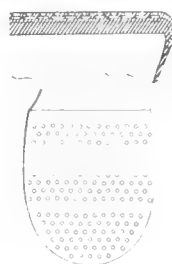
OAKLAND

at the base of the pipe. It is claimed that the Gibbs gives a greater variation of sprays than any other nozzle. The construction is simple, being made of a few parts, so it cannot easily get out of order. The "Mayflower" sprinkler is the latest addition to the Allen list of revolving lawn devices. It is a combination of the best features of the "Pluvius" and "Preston" sprinklers, which have been described in THE

INDIA RUBBER WORLD, with new features added. The Mayflower is an unusually small and graceful affair and does its work in a fashion that wins admiration from all users. A Pacific coast invention of note that is being exploited by the Allen company is the "Oakland" spray nozzle, which has already won a high place in popular favor. It throws a solid stream and a spray, but does not shut off. One of its advantages is that when the spray is in operation there is no back pressure on the hose. It may be used as a lawn sprinkler by setting it on the edge of a walk and allowing it to rest on the spray key.

NEW ANTI-SLIP OVERSHOE SOLE.

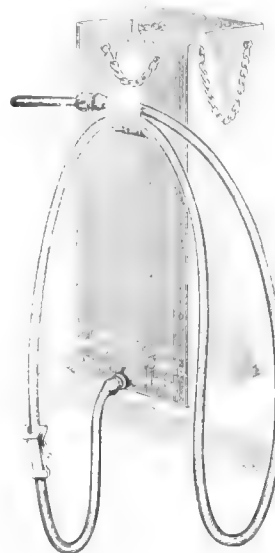
A NOVEL anti-slip sole for rubber overshoes has been patented by Mr. Calvin T. Adams, of New York. The device consists of an outer rubber sole vul-



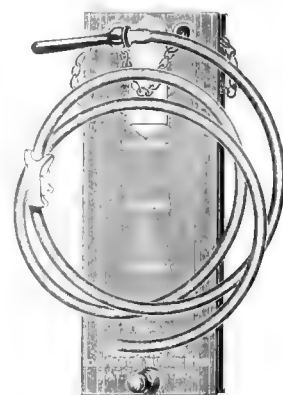
canized on two thickness of canvas and studded with rivets which are driven through it and clinched by a machine made especially for the purpose. The heads of the rivets are normally below the surface of the rubber, but are brought into contact with the ground by the pressure of the foot in walking. Their utility as a slip preventive is emphasized on ice. It is obvious that the wearing quality of the sole is considerably enhanced by the rivets.

THE "WIDER" CLINICAL SYRINGE.

A FOLDING rubber bucket has a great many known uses, and the handy housewife, or a camping party can always



discover new uses for one. The bucket shown in the cut was primarily intended for a clinical syringe, but many other sickroom

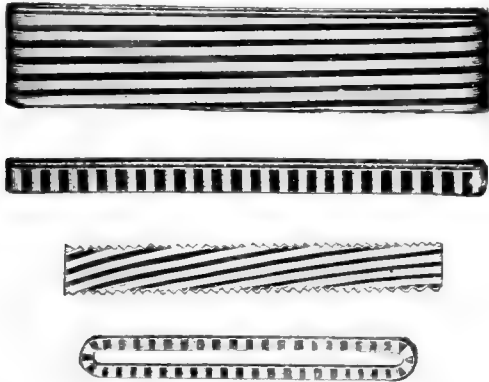


uses for it were soon discovered, a few of these being mentioned by its makers. As a syringe, it possesses many points of superiority over the ordinary fountain syringe. The front and back are stiff, so that when filled with water it will stand alone. The top also stands wide open, giving access to the contents for use of a thermometer, and for mixing a solution, or otherwise medicating the water to be injected. The open top also makes it easy to clean and dry, or sterilize. The tank also has chain handles, and a loop, through which the tubing can be coiled when not in use. The tubing is provided with a spring cut-off and several nozzles. The tank is also accurately graduated in pints

and quarts, up to four quarts, being made in two sizes, of two and four quarts, respectively. When a rubber cap instead of the tubing is put on the outlet, the tank becomes a bucket, which can be folded flat, and can be used for all the purposes to which any bucket can be put, though oily substances must not be put into them, of course. The great importance of rubber in surgical goods is well known, especially in the matter of syringes. Syringe making was, in fact, one of the first uses to which rubber was put, and over much of South America rubber is called "seringa" from this fact. [The Davidson Rubber Co., Boston.]

RUBBER BANDS AS BUSINESS GETTERS.

ONE of the strongest aids in selling goods is the arrangement of the goods themselves in a manner that will please the eye of the intending customer. This is a rule that applies to all commodities. Where it is easy to arrange an effective display of some lines of goods it is correspondingly hard in others. This is particularly the case with such small ware as stationery and office supplies. With that in view Eberhard Faber (New York) has designed a specially prepared rubber band which finds much favor because of



its beauty and adaptability to purposes of decoration. These bands are of the usual Eberhard Faber high quality, and differ from them only in being of two colors — red and black — instead of the customary dull grey. The colors are in pin stripes. The bands are put up in a style that gives to them a peculiar fitness for show purposes and adds to their value as a business getter. The sizes are exactly the same as the ordinary bands. Some other lines of goods made by the same firm are also produced in two colors as indicated in the illustrations.

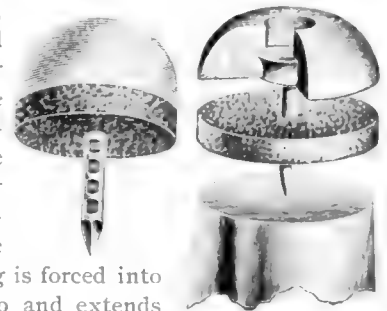
HARD RUBBER BOWLING BALLS.

AN article which seems likely to cut something of a figure when the annual consumption of rubber is reckoned, is a bowling ball made of hard rubber. The rubber bowling ball can scarcely be called a new thing, but of late it is coming into increased use. The chief reason why it has not been taken up more generally by bowlers has been its cost. That obstacle has been in a measure overcome by the increasing scarcity and consequent high price of *lignum vitae*, from which wooden balls are made. It must be remembered that while the

initial cost of the rubber ball is greater, this ball is practically indestructible. Besides, the best wooden ball is liable to become split or "checked." And it is more or less subject to warping or it may be worn flat in spots. From any or all of those troubles the rubber ball is exempt. It is claimed for the hard rubber bowling ball that it is uniform in density and will not wear away in spots, as does the wooden ball; that it will always remain a true sphere no matter how much used, and will not require turning down to a new face; it has no grain, hence is not liable to chip and become rough and broken around the grip holes; and it will not injure the face of the finest alley, as it always presents a true face to the alley. The regulation ball is 27 inches in circumference and weighs 16 pounds, but lighter and smaller balls are made to order. [American Hard Rubber Co., New York.]

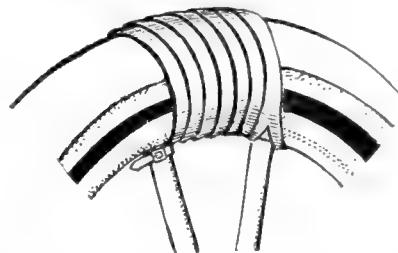
COMBINATION CUSHION CHAIR TIP.

THIS is a new idea in chair tips and is designed to take the place, under certain conditions, of the rubber tip. It is made of selected sole leather, reinforced with metal bushing. The leather comes in contact with the floor and consequently allows the chair to move freely without noise or scratching highest finished hardwood or marble floor. The metal bushing is forced into the hole of the leather tip and extends from the bottom of tip half way and is expanded at the top, which fastens it securely to the tip, and when the nail is inserted it allows the tip to have the full benefit of the felt cushion. The felt is elastic, practically like rubber. The company make also similar tips for crutches, chairs, and the like. [The Elastic Tip Co., Boston.]



A NEW EMERGENCY TIRE STRAP.

AN appliance that will afford immediate and satisfactory relief when the almost inevitable puncture comes along is a



real boon to every user of pneumatic tires, whether he be snugly ensconced within the luxurious confines of an up-to-the-minute touring car or astride the somewhat more plebian bicycle. When

the dreaded moment arrives something must be done, and done quickly. It is to meet such emergencies promptly and efficaciously that the Automobile Tire Emergency Strap was designed. This strap is made of specially prepared waterproof leather. Its operation is simplicity itself. You have only to buckle one end to a spoke, wind the strap tightly around the punctured section of the tire, fasten the loose end of the strap to the next spoke, blow up your tire and away you go. The strap used in this manner is referred to as being good for 100 miles over ordinary roads. [Leather Tire Goods Co., Newton Upper Falls, Massachusetts.]

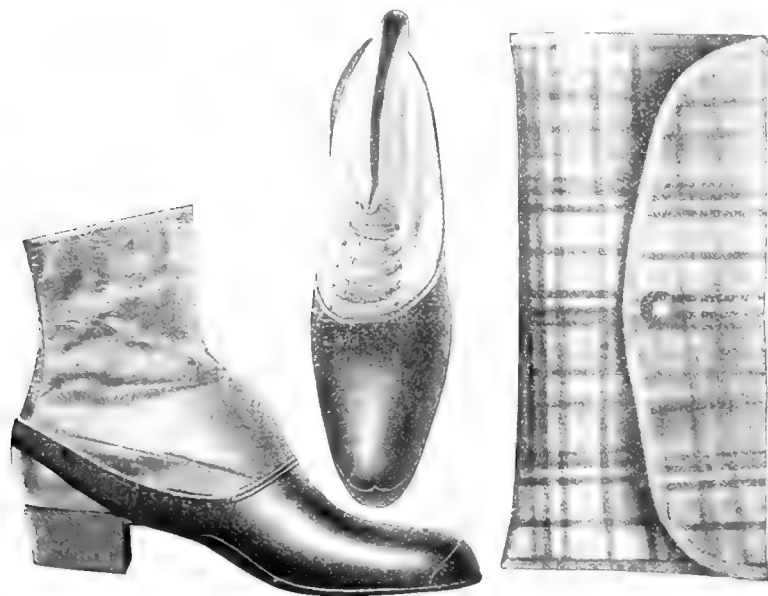
THE M'INTYRE AIR CUSHION SHOE.

A boon to people afflicted with sore or tender feet is an air cushion shoe called the McIntyre, of which John Wana-

maker has been appointed sole selling agent for New York city. This shoe is padded on the inner sole with a layer of sponge rubber, to protect the foot from jars. The perforations, having the function of air cells, facilitate ventilation. The device acts as an air pump. The step compresses the cells and forms a vacuum; when the foot is lifted the cells expand and fill with air which circulates about the foot and is expelled with the next step. The advantage of a rubber cushion over a felt cushion is that it is impervious to moisture and that it returns to normal after being compressed. The number of cells in the air cushion of a No. 8 man's shoe is, approximately, 87,000. The cushion is encased in a turned in and stitched jacket of kid leather which holds the cushion in place. This cushion sole is thicker at the heel than at the forepart, the former being about a quarter inch and the latter about one-eighth. The McIntyre Air Cushion shoe is made in men's and women's styles and sizes and sells for \$5 a pair.

"SO-LITE" LADIES' POCKET RUBBERS.

THE goods illustrated in the cuts herewith—made by the dipping process—are about one-third the weight of ordinary rubbers of the same style. In addition to the light weight, which is desirable, one advantage of these goods is that a pair of them can be rolled up in a little waterproof bag and carried in the pocket or a shopping bag. They are specially desirable for ladies who want a rubber while shopping or traveling which need not be worn all the time, but which



can be taken off whenever desired and carried almost as easily as a pair of gloves. These goods are manufactured for the proprietors by the Goodyear's India Rubber Glove Manufacturing Co. They are meant to be retailed at 75 cents and specially liberal terms are offered dealers to facilitate the introduction of the goods. These rubbers are made in sizes from 1 to 8, in three widths, and for narrow and wide toes. [The "So-Lite" Rubber Co., Rochester, New York.]

One of the trade novelties that is at the same time dainty, attractive and serviceable is a celluloid postage stamp and court plaster case sent out by The Dermatine Co., Limited (London).

RESTORING COLOR OF RUBBER CORKS.

[FROM "THE DRUGGISTS' CIRCULAR," NEW YORK.]

J. J. L., New York, writes: "Please publish in the CIRCULAR a formula for putting a coating on rubber corks so they will look like new, as I had about 150 gross in my cellar which was flooded by the high water last spring. They were in the water about ten days, and after they dried they were all dark."

We sought information on the subject from the Tyer Rubber Co., which was kind enough to write as follows: "We presume the corks are only stained by the action of the water. If so, in all probability, if they were 'tumbled' (that is, put in a revolving barrel such as all rubber manufacturers have) and allowed to stay a short time either with soap and water or possibly with a little grinding substance, it would take off this stain. We of course cannot tell whether the stopple itself is of dark material, and the original whiteness was due to the sulphur, or not. In this case, it is probable that they would not come back to the original whiteness, although undoubtedly it would take off a good deal of the dark color. We could give a better opinion on the matter if we saw samples of the stopples. If your customer's quantity, however, was a small one, we should doubt whether it would pay to do much with them."

In case the darkening is not more than surface deep, the New York Belting and Packing Co. thinks perhaps boiling the corks in potash may restore their color.

THE London Times, in a report on the troubles at Moscow, resulting in the execution of several revolutionaries on January 6, says: The manager and assistant manager of the rubber works have been arrested. "Let me take my clothes," pleaded the manager. "You will not need them," replied the officer. The assistant manager is an Austrian.

THE United States consul at Callao, Mr. Gottschalk, in a report on contract labor in Peru, says that such system does not prevail in the department of Loreto, the region which supplies a large part of the rubber exported through Iquitos. The work is done chiefly by independent rubber cutters who are often *habilitado* ("staked") by commercial firms at Iquitos and Puerto Bermudez who buy their products.

COLORADO RUBBER.—The supply of rubber news from Colorado is unfailing. The production of a wonderful supply of rubber from "rabbit weed"—the same that killed father's prize ram—is always about to begin. The Colorado Springs Telegraph now lets out a secret: "Within a few weeks the first factory in the state for the manufacture of rubber from the recently discovered Colorado rubber plant will be in operation. . . . The factory is at Durango, and represents an expenditure of \$75,000." The only trouble about the Colorado news is that it never varies; for two years the rubber factory has always been ready "next week"—with no more fixed date.

MR. R. P. SKINNER, the United States consul at Marseilles, who recently made an expedition to Abyssinia, reports favorably in regard to commercial openings there. He reports the granting of an imperial concession to the Kordofan and Khartoum Co., in the province of Kaffa, one of the purposes of which is to grow rubber.

NEWS OF THE AMERICAN RUBBER TRADE.

A RUBBER BANQUET IN SAN FRANCISCO.

THE Mechanical Rubber Goods Association of the Pacific Coast gave a banquet in honor of Mr. Amadee Spadone, of New York, at the California Hotel in San Francisco on the evening of February 9. The banquet was presided over by Mr. Joseph V. Selby, the president of the association, and every rubber company on the Pacific coast was represented. Mr. Spadone made some very interesting remarks, pointing out the dangers of associations of this kind and some of the trouble that had been experienced by the Eastern associations of the same kind, and congratulated this association on the unity and harmony prevailing. Mr. William J. Gorham, the vice president of the association, answered his remarks in a very happy way, welcoming the guest to the Pacific coast and hoping the association would have the pleasure of having him as its guest again, and assuring him that the members dwelt together in unity and harmony at all times as well as at the banquet, and that all realized it was a benefit to all to belong to the organization and that they had already corrected many of the small abuses of the trade. Toasts were responded to by Mr. Selby, who is the Western manager of the Boston Woven Hose and Rubber Co.; by Mr. W. F. Bowers, president of the Bowers Rubber Co.; Mr. A. C. Bates, who is retiring as branch manager of the Gutta Percha and Rubber Manufacturing Co. to go into business for himself, and Mr. C. H. Chase. Mr. Bates, who was one of the charter members of the association, was made an honorary member. The meeting adjourned with a vote of thanks to Mr. Spadone for the honor and pleasure of his company. Mr. Spadone's visit to the Pacific coast was in connection with business of the Gutta Percha and Rubber Manufacturing Co., of which he is the president, and consumed practically the whole of the past month. He was accompanied by his son, Mr. Walter W. Spadone, superintendent of the company's factory. Mr. Bates, the retiring manager of the San Francisco branch, will be succeeded by Martine & Brown—two gentlemen who throughout their business career have been connected with the Gutta Percha company, Mr. Martine in the San Francisco store, and Mr. Brown at Portland. Both will now make their headquarters at the San Francisco house.

THE MITZEL RUBBER CO. (CARROLLTON, OHIO).

At the annual meeting of the Mitzel Rubber Co. the officers were re-elected: H. F. Mitzel, president, treasurer, and general manager; R. A. Mitzel, vice president; George N. Eby, secretary. The additional directors are L. D. Stookon, W. L. Handley, and J. R. William. A good business for the year was reported, and the cash dividend of 12 per cent. declared. The factory at Carrollton has been in existence for a little more than a year, and the company are much gratified at the result of moving from Akron. The company have purchased additional land on which they purpose erecting this spring a new two story building, 40 x 250 feet. They have added a number of presses during the year, and have just installed a new tubing machine and are constantly adding new lines of products. For instance, they are going more fully into hot water-bottles and syringes.

SEAMLESS RUBBER CO. ANNUAL ELECTION.

At the annual meeting of the shareholders of the Seamless Rubber Co. (New Haven, Connecticut) on January 26 the following were elected directors: Charles I. Thayer, Boston; A. H. Alden and Mrs. Mabel C. Alden, Larchmont, New York; and George M. Allerton, Waterbury, Conn. Following the meeting the directors organized and elected Mr. Thayer president and Mr. Allerton treasurer, and Ernest D. Steer, of New Haven, secretary. At this meeting the office of general manager was abolished and the resignation of Mr. E. E. Mendes, who had filled that position, was accepted.

PRESENTATION TO COMMODORE BENEDICT.

A DINNER in honor of Commodore E. C. Benedict was given by Colonel Samuel P. Colt, president of the United States Rubber Co., at the Metropolitan Club, in New York, on the evening of January 30, being attended by 48 persons, including a number of directors of the United States company. The occasion was the first anniversary of the return to New York of the yacht *Virginia* from its cruise on the Amazon, when Commodore Benedict took a party of friends on an extended visit to the rubber regions. After an opening speech by Colonel Colt the surprise of the evening was the presentation to Commodore Benedict of a gold cup, on behalf of the United States Rubber Co. The cup is understood to have cost \$5000, and is ornamented with two panels representing scenes on the voyage of the *Virginia*. The presentation speech was made by Mr. Francis Lynde Stetson. After a response by Commodore Benedict and a speech by Mr. William M. Ivins, a series of about 100 stereopticon views, illustrating the itinerary of the *Virginia*, was shown, with descriptive remarks by Mr. Richard Arthur, who was one of the *Virginia* party, and who has published a history of the trip. A letter was read from Mr. Grover Cleveland, late president of the United States, regretting his ability to be present.

NEW INCORPORATIONS.

SALISBURY Tire Co., January 23, 1906, under the Michigan laws; capital authorized \$100,000. Incorporators: David R. and Oliver B. Salisbury, Owosso, Michigan; Edwin P. Waldron, Saginaw, Mich., and others. The company will manufacture and market a leather tire invented by the Messrs. Salisbury—a tire embodying no rubber except the air tube. The factory will be at Owosso; Robert G. Steel is secretary and treasurer.

—J. P. Devine Co., February 1, 1906, under New York laws; capital, \$100,000. Directors: Joseph P. Devine, William Strohn, and William P. Kemp. Office: No. 314 Mooney-Brisbane building, Buffalo, New York. This is a reorganization of the business of J. P. Devine, dealer in vacuum drying and similar apparatus, including the Emil Passburg drying chambers for rubber. The Passburg patent rights in America have been made over to the new company and Mr. Strohn, who has been and is associated with the firm of Emil Passburg (Berlin) from its inception, is the vice president of the new company.

—Imperial Waterproof Co., January 25, 1906, under New

York laws; capital authorized, \$100,000. Directors: C. M. Willard, Rutland, Vermont; A. W. Hyde and E. J. Newell, Buffalo, N. Y. The object is the manufacture of waterproof goods under a secret process discovered by Mr. Willard, which is described as being adapted to all grades of cloth, leaving the fabric flexible and not lessening its durability; without stickiness or unpleasant odors, and absolutely impervious to wind or water. Mr. Willard writes: "We are installing a large plant at Buffalo and have abundant capital to meet the demand." The waterproofing process has been mentioned hitherto in THE INDIA RUBBER WORLD.

=Empire Automobile Tire Co. (Trenton, N. J.), January 17, 1906, under New Jersey laws; capital, \$50,000. Incorporators: C. Edward Murray, Charles H. Baker, and A. Boyd Cornell, all of Trenton.

=Michelin Products Selling Co. (New York), January 16, 1906, under New York laws; capital, \$100,000. Incorporators: William F. Donovan, Percival W. Logan, and Frank P. Reilly. The management is in the hands of E. D. Winans, formerly in charge of the Michelin Tire American Agency, Inc. (New York).

TRADE NEWS NOTES.

AMONG the improvements made recently at the factory of the National India Rubber Co. (Bristol, Rhode Island) is the removal of the insulated wire department into larger quarters, in a different part of the premises, where a 125 H.P. Armington & Sims engine has been installed. Eighty new wire braidiers have been installed, and there are orders enough in hand for wire, it is understood, to keep the plant busy for several months to come.

=The reclaiming plant of the Stockton Rubber Co. (Stockton, New Jersey) was damaged by a fire on January 20, after the works were shut down, caused by the overheating of a flue. The loss was covered by insurance, which was promptly adjusted, and the factory was working again by February 5.

=At the annual meeting of The Combination Rubber Manufacturing Co. (Bloomfield, New Jersey), in January, E. D. Cook was elected president, E. H. Garcin, vice president, William H. Serviss, treasurer, and W. L. Blodgett, secretary.

=Mr. R. J. Younge has resigned as general secretary of the Canadian Rubber Manufacturers' Association to accept an important executive position in the general sales department of the Canadian Rubber Co. of Montreal, Limited. His new connection dates from March 1, and no doubt he will be an important acquisition to their already strong selling force.

=Apsley Rubber Co. (Hudson, Massachusetts) are building a six story addition to their factory, 160 x 60 feet, to be used for additional storage room much needed, and other room necessary for their increasing business. Work on the new addition was begun on January 23. The building will be erected on the east end of the main factory, and extend toward Cottage street.

=Mr. John F. Ives, who has been placed in charge of the textile department at the factory of the Gutta-Percha and Rubber Manufacturing Co. (New York), has been identified for several years with improvements in fabrics in connection with mechanical rubber goods, including tire fabrics.

=The directors of the Rubber Goods Manufacturing Co. on February 15 prepared the twenty-eighth regular quarterly dividend of $1\frac{3}{4}$ per cent. on the preferred shares of the

holders of out of earnings, payable March 15, 1906, to shareholders of record on March 10.

=A recently published report of the incorporation of the "Hartford Rubber Works" in California related merely to the filing with the secretary of state at Sacramento of the original charter of the Hartford Rubber Works Co. (Hartford, Connecticut), to comply with a legal formality connected with their doing business in California.

=The Todd Rubber Co. has been organized at New Haven, Connecticut, to conduct a general rubber goods business, but to pay particular attention to the marketing of solid cushion and automobile tires in the state of Connecticut. The president and treasurer is Eyler J. Todd, who recently resigned as secretary of the Springfield Rubber Tire Co. (New Haven), to organize the new company. They have the exclusive agency for Connecticut of the Kelly-Springfield tires.

=The directors of the Boston Woven Hose and Rubber Co. have declared a semi-annual dividend of \$3 per share on the common stock, payable March 15, 1906, to stockholders of record March 5.

=The "Everstick" invisible rubber continues to be a sensation in the shoe trade, and Mr. William Morse, president of the Merchants' Rubber Co. (New York), says that the sales are running into the millions of pairs annually. These goods are also in wide demand in Canada.

=The Aiton Machine Co. No. 126 Liberty street, New York, have issued their Bulletin No. 2, describing their 8 drum Stranding Machine. This machine carries spools 12" x 8" at a speed of 200 RPM. The entire machine is mounted on a stiff bed plate and is equipped throughout with cut gearing. Further details will be cheerfully given upon request at the company's office.

=What is probably the largest single order for rubber tires by an automobile manufacturer was placed recently by the Ford Motor Co. with the Firestone Tire and Rubber Co. (Akron, Ohio). The order was for 8000 tires, to be used on Ford runabouts: 500 sets for April delivery, 1000 sets for May, and 500 for June. The order was booked by Mr. E. E. McMasters, manager of the Detroit branch of the Firestone company.

=Elkhart Rubber Works (Elkhart, Indiana), February 3, 1906, under Indiana laws; capital, \$50,000. Directors: Harry N. Shepherd, Addison L. Gardner, and Randall W. Burns. Mr. Shepherd is a Chicago man and New York parties are reported to be interested. It is understood that automobile tires and mechanical rubber goods will be made.

=At the Anglo-Malay Rubber Co.'s recent statutory meeting of shareholders, in London, it was announced that the managers estimate for the present year was 50,000 pounds of dry rubber and 2000 hundred weights of coffee, the rubber to cost about 1 shilling per pound, exclusive of some expenditure necessary to bring the estate up to a good standard.

=The Buffalo Rubber Manufacturing Co. (Buffalo, New York) have removed into their new plant and office, at Sussex avenue and Erie railway, where they have about 30,000 square feet of space and double their former capacity.

=Mr. R. O. Price, general manager of the Plantacion Solo-Suchil, in Mexico, is so well impressed with the prospective advantages of spiral tapping that he will soon experiment with the new method on several thousand rubber trees which he thinks may show good results.

=The suit of the Preston Woven Hose and Tire Co. against six members of the board of trade of Marlboro, Massachusetts, for money promised to induce him to remove his factory there from Everett, Mass., but only a portion of which was paid, on account of the factory suspending operations, has been settled by the court entering a judgment for neither party. J. F. Preston, who organized the business, was last reported in California.

=In reply to a query in the February number of THE INDIA RUBBER WORLD, Mr. Oton Katterfeldt, of Gomez Palacio, Mexico, writes that for about a year he has been making monthly shipments of Guayule plants to European rubber manufacturers. He says he believes himself to be the only explorer of the Guayule plant in Mexico.

=Speaking generally, it is a little late for calendars. But it is always timely enough to issue such a one as that being sent out by William F. Mayo & Co. (Boston). It is neat in design, convenient in size, and especially attractive in appearance, since it displays the portraits of the head of the house and his two sons, George H. Mayo and William H. Mayo.

=A final meeting of the creditors of The Alden Rubber Co. was held on February 15, when the trustee, F. B. Burch, was discharged.

=A steam hose that really does the work is that appropriately named "Long Life" hose. It is claimed for it that it is the best moderate priced steam hose anywhere. It is made by the Whitehead Brothers Rubber Co., Trenton, New Jersey.

=The Hadley Cement Co. (Lynn, Massachusetts), are about to open a branch factory at Lachine, Canada, to supply the European market, the purpose being to escape the duties on goods exported from the United States.

=The reported fire at the works of The Republic Rubber Co. (Youngstown, Ohio) on February 10 only damaged a minor building, used as a box factory and carpenter shop to the extent of \$1000. It will be rebuilt on a larger scale.

=Electric Rubber Co., January 31, 1906, under New York laws; capital, \$10,000. Directors: Delmar D. Martin, James H. George, Fred E. Evans, Charles H. George, and W. J. Conklin. The New York-Broadway Rubber Tire Co., No. 253 West Forty-seventh street, New York, with D. D. Martin manager, has been converted into a selling agency for the tires of the Electric Rubber Manufacturing Co. (Rutherford, New Jersey), and the name changed as above. Mr. Martin will be in charge, at the old location.

=The National India Rubber Co. (Bristol, Rhode Island) are manufacturing this year larger quantities of their patented 500 foot length garden hose than ever before. This hose is furnished in medium and high grades only, and is shipped on reels in order that it can be conveniently handled by the dealer. The particular advantage of this long length hose has over the regular 50 foot length lies in the fact that any length of hose up to 500 feet can be furnished a customer without waste and without the use of couplings. This concern also manufactures a large line of water, steam, brewers, and air drill hose.

=There are many people who are firmly convinced that Alfred Calmon's "Long Life" rubber shoe, which is a Hamburg, Germany, product, not only amply justifies its name, but that it also is so delightfully elastic and comfortable that it conduces to the longevity of the lucky wearer.

HASKELL GOLF BALL PATENT AGAIN SUSTAINED.

By a decision of the United States circuit court for the southern district of New York, filed on February 3, the Haskell Golf Ball Co. score a victory over the Perfect Golf Ball Co. The decision not only upholds the validity of the Haskell patent, but it also finds that the defendants were guilty of infringement and grants the complainant's petition for an injunction. The Perfect Golf Ball Co. are also ordered to render an accounting of the business done by them. In the Haskell ball the core is wound with fine rubber thread, the whole being covered with a hard gutta percha casing. The ball made by the Perfect Golf Ball Co. has identically the same core and casing, but instead of a winding of rubber thread, a rubber band is stretched as it is wound until it is almost as narrow and thin as a thread. The court holds that this rubber band is substantially a thread since it is drawn to threadlike proportions in the winding process, so as to constitute infringement of the Haskell patent.

The Perfect Golf Ball Co. was incorporated September 29, 1903, under Maine laws, with \$1,000,000 capital authorized. The president was Eleazar Kempshall, who has the distinction of having had more golf ball patents issued to him than to any one else. Mr. Kempshall had previously been at the head of the Kempshall Manufacturing Co., who were sued for infringement by the Haskell Golf Ball Co., the suit being settled by an agreement under which the Kempshall company have since paid a royalty. During the past month the Globe Lithographing Co. (New York) secured a judgment against the Perfect Golf Ball Co., but when a deputy sheriff went to their office, No. 100 Reade street, he was unable to find any property to attach.

TO MAKE SYNTHETIC RUBBER.

TO THE EDITOR OF THE INDIA RUBBER WORLD: We take pleasure in informing you that we have made arrangements with Mr. George E. Heyl-Dia to manufacture all his synthetic and crude rubber products, and would ask you to kindly make a note of this in your paper. Yours truly,

PARA RECOVERY CO.

Bayonne, N. J., February 15, 1906.

PERSONAL MENTION.

MR. ELLIOT M. HENDERSON, vice president of the Manhattan Rubber Manufacturing Co. (New York), is back from abroad his trip having embraced the larger European centers, followed by a voyage to Cape Town, South Africa, and a return up the East Coast to Aden and then home. Now the president and general manager of the company, Mr. A. F. Townsend steps aboard a steamer and goes to Jamaica for a month's rest. He is accompanied by his brother Edward, who is one of the directors of the company, and by Mr. True, one of the selling force.

=At the annual banquet of the Massachusetts Automobile Club, held in their elegant club house on Boylston street, Boston, on the evening of February 21, the Editor of THE INDIA RUBBER WORLD spoke on "Tires and Motoring." There were about 200 present.

=THE INDIA RUBBER WORLD joins with the rest of the host interested in the rubber trade, in extending congratulations to Miss Ida Pauline Towner, whose marriage to Mr. William Kirby Everingham took place on February 27. The bride is the daughter of Mr. Harry N. Towner of Towner & Co. (Memphis, Tennessee), one of the largest jobbing firms in the rubber trade.

MISHAWAKA WOOLEN MANUFACTURING CO.

FOLLOWING reports published in the West of a change of control of the Mishawaka Woollen Manufacturing Co. (Mishawaka, Indiana), rumors became current in the East that this important concern would be operated in future by the United States Rubber Co. THE INDIA RUBBER WORLD is advised from Mishawaka: "There have been some changes in stockholdings, but the control remains substantially where it always has been. Directors the same except Mr. A. D. Warner takes the place of Mr. Marvin Campbell on the board, and general conduct and management of the business remain exactly as heretofore." Colonel Samuel P. Colt, president of the United States Rubber Co., when applied to at Bristol, Rhode Island, by THE INDIA RUBBER WORLD, stated: "The United States Rubber Co. has not obtained control of the Mishawaka company. You may say, however, that the two companies are interested in common in the purchase of crude rubber, and that a friendly spirit exists. We are wholesome business rivals, but we are not bitter antagonists. The United States company has not purchased or does not control the Mishawaka company and reports to this effect are unfounded." The directors of the company are E. A. Saunders, president; E. G. Eberhart, vice president and general manager; F. G. Eberhart, secretary and superintendent; A. D. Warner, treasurer; J. M. Studebaker, George M. Studebaker, Clement Studebaker, Jr., F. S. Fish.

NEW YORK STOCK EXCHANGE TRANSACTIONS.

UNITED States Rubber Co. :

DATES.	Common.			Preferred.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Jan. 20	30 250	57	54½	6,271	115	112½
Week ending Jan. 27	41,955	58½	55	5,100	114½	112½
Week ending Feb. 3	19 230	55½	51¾	4,019	112½	109¾
Week ending Feb. 10	7,525	54	51½	2,746	110¾	109½
Week ending Feb. 17	9 800	52½	49½	1,800	110¾	108½
Week ending Feb. 24	7,140	51	49	800	109½	108

SECOND PREFERRED.

WEEK ending—	Jan. 20.	Jan. 27.	Feb. 3	Feb. 10.	Feb. 17.	Feb. 24.
Sales...	6,000	6,300	2,385	3,350	1,000	860
High ..	87½	87¾	83¾	82	81½	81
Low ..	86¼	84½	81	79½	79¾	79¾

During the week ending January 20 a sale of 100 shares of Rubber goods preferred was made at 106¾.

CONSOLIDATED COTTON DUCK CO

At a meeting of the Consolidated Cotton Duck Co., in Baltimore, on February 19, a dividend of 3 per cent. on the preferred stock was declared for the six months ending December 31, payable April 2. It was stated that the income had amounted to \$4,697,180, with net earnings of \$516,675. The Consolidated Cotton Duck Co. have acquired the United States Cotton Duck Corporation and the Mount Vernon-Woodberry Cotton Duck Co., and have arranged to acquire all the stock of the J. Spencer Turner Co. (New York), which will hereafter dispose of all the products of the Consolidated company. The new company has no bonded debt of its own, and has \$6,000,000 of 6 per cent. cumulative preferred stock and \$7,000,000 of common stock. Through the exchange last year of securities of various companies in interest a capitalization of \$36,670,000 has been converted into \$21,470,000. The total value of the mill properties of the Consolidated Cotton Duck Co. is given at about \$16,000,000, exclusive of \$1,000,000 for additional machinery recently installed.

STARTING in with three excellent grades of reclaimed rubber the Eastern Reclaimed Rubber Co., with offices in the *World* building, New York, and factory in Brooklyn, are bidding well for the attention of the trade. The grades mentioned are Conquerer, Viking, and Regal, are made of shoes and look exceeding well. A specialty of the new company will also be the manufacture of reclaimed rubber to specification.

THE CINCINNATI RUBBER MANUFACTURING CO. (Cincinnati, Ohio), in issuing their Catalogue A, of Mechanical Rubber Goods, call attention to the fact that theirs is not exactly a new concern, having been incorporated to purchase the extensive rubber business formerly owned by the Whitman & Barnes Manufacturing Co. (Akron), retaining the same management and working force, with such additions as are necessary for an enlarged business. The catalogue embraces a very full line of mechanical goods and molded rubber specialties. [5¼" × 7½." 96 pages.]

THE Laurel Rubber Co. (No. 556 West Twenty-fifth street, New York) intend moving their factory about May 1 to Garfield, New Jersey. Arthur Dyer is now president of the company, C. E. Wickers secretary and treasurer, and F. A. Cigol superintendent.

AN INTERESTING USE FOR RUBBER is for the shipping of fulminate of mercury. This, as many know to their sorrow, is extremely explosive and exceedingly sensitive to shock. It is therefore shipped in paste form, in high grade bags made of almost pure rubber. These bags hold about a gallon each and are tied at the mouth with a string and put in a can of water; the can in turn is packed in the middle of a cask and surrounded by elastic packing.

INDIA-RUBBER bands have their multifarious uses, but one of them is not to go around electrotype plates. The sulphur in the rubber acts upon the copper in such a way that in time the copper is corroded and the electrotype's usefulness is at an end. A simple lesson that it has cost much money to learn.

THE Banigan Rubber Co., of Providence, R. I., is now distributing to the trade a very unique piece of advertising in the shape of a bronze Medallion. It is 12 inches in diameter, lithographed in rich green tones, with lettering and trade-mark of the well known "Banigan Lion" in gold bronze. The medallion is made of metal and is heavily embossed, bringing out in bold relief the trade-mark, and making a very attractive ornament for a store or window. Your jobber will supply you and your trade will increase if you keep the medallion in sight.

HAVE you seen the new panel being distributed by the American Rubber Co., of Boston, Mass.? It is a companion piece to the "American Girl" which was so popular last year—same size, but an entirely different color scheme. This is a study in brown, being a reproduction of a pastel drawing by a well known artist, and shows the "American Girl" in front of the famous Flat Iron Building in New York. It is very attractive and should be in every retailer's window that sells "American" Rubbers.

ALBERT V. W. TALLMAN has severed his connection with Robinson & Tallman and established himself as a broker in India-rubber at Nos. 54-56 Stone street, New York.

THE EDITOR'S BOOK TABLE.

TEN THOUSAND MILES IN A YACHT ROUND THE WEST INDIES AND UP the Amazon. By Richard Arthur. Introduction by William M. Ivins. New York: E. P. Dutton & Co. [Cloth, 12 mo. Pp. 253. Price \$2.]

A BOOK on the Amazon region, by a competent observer, is so rare that the appearance of a new one deserves notice for this reason alone, but when it possesses the exceptional charm of Mr. Arthur's little work, the reviewer is tempted to linger long over it. Its *raison d'être* is to chronicle the history of a yacht cruise which Mr. Ivins, in his introduction—and one may be pardoned for referring to his riper experience in the regions described than almost any other writer who has visited the Great River—calls “one of the rarest incidents in the lives of several of a party of close friends, with some of whom the shadows are already beginning to grow long.” The delights of the cruise of the *Virginia*, with Commodore Benedict as host, necessarily were confined to very few, but they will now be shared by all who may be so fortunate as to read the impressionist sketches in which our author has word-pictured, not merely the wonderful Amazon country, but the lands and islands at which the *Virginia* touched in going and coming between Manáos and New York. The book gives no impression of being intended to afford information, but most readers will finish its perusal with a sense of having become aware of a hitherto undiscovered country. The *Virginia's* cruise was not without a commercial side, for everybody in the party was interested in rubber, which, as Mr. Arthur puts it, “is the material basis of practically the whole human life of the Amazon valley.” But the author's written descriptions, and the wealth of pictorial illustrations bring out strikingly the many beauties and wonders of the greatest of rivers, and of the South American land, “where it seemed always afternoon.” To quote Mr. Ivins again, those who have known the tropics can ever after feel the South a-calling, as Kipling did the East. As for Mr. Arthur, THE INDIA RUBBER WORLD hopes that the success of his first book will serve to keep him long in the field of authorship.

MODERN MACHINE SHOP CONSTRUCTION, EQUIPMENT AND Management. By Oscar E. Perrigo, M. E., New York: The Norman W. Henley Publishing Co. 1906. [Cloth. Quarto. Pp. 343. Price \$3.]

WHILE this is a comprehensive and practical treatise on the economical building, efficient equipment, and successful management of a machine shop, it is just as applicable to rubber factories or any other manufacturing establishments. It describes and illustrates a most simple and efficient time and cost system and treats at length of other details that are equally important to all those concerned in the erection, equipment or management of any large manufacturing or industrial plant and is of equal value and interest to the employés of such establishments. The book is illustrated with 200 drawings made especially for this work by the author.

MATERIALIENKUNDE FÜR DEN KAUSCHUK-TECHNIKER. EIN Hand- und Nachschlagebuch. Bearbeitet von Richard Marzahn, dipl. Hutteningenieur-Chemiker. Dresden: Steinkopff & Springer. 1906. [Cloth, 8 vo. Pp. [6] + 416. Price 13.50 marks.]

THIS volume consists of a series of notes intended to be of practical value in the rubber and allied industries, prepared by a technical expert and presented under an alphabetical arrangement of topics. This material has been appearing for some time past in the periodical issues of *Gummi-Zeitung*, and it now appears that the author is Mr. Richard Marzahn, a chemical engineer of standing in Dresden. In a measure

the nature and the arrangement of the material in this book suggests Mr. Pearson's “Crude Rubber and Compounding Ingredients.” One difference however, is that fewer materials are treated and these at greater length, and somewhat in more technical style, so far as chemistry is concerned. Another point which distinguishes Marzahn's book is its inclusion of various materials which, while they may be called for in connection with rubber goods, have not hitherto usually been treated in technical works on rubber. For instance, 6 pages are devoted to asbestos, 3 to asphalt, 2 to aluminum, 3 to camphor, 2 to cotton, and 2½ to silk. The style in which the book is got up is attractive and it appears well adapted for a ready reference book.

REPORT ON RUBBER IN THE GOLD COAST. BY W. H. JOHNSON F. L. S., director of agriculture. [Accra] Gold Coast: Government Printing Press. 1905. [8 vo. Pp. 15.]

REPORT UPON THE BOTANICAL AND AGRICULTURAL DEPARTMENT [Gold Coast Colony] for the Year 1904, by W. H. Johnson, director of agriculture. London: Waterlow & Sons, Limited. 1905. [Folio Pp. 25.]

MR. JOHNSON, whose interest in promoting the culture of rubber led him to prepare a book on “The Cultivation and Preparation of Para Rubber”, which was reviewed in these columns a few months ago, continues to devote no small part of his energies to stimulating the interest in rubber culture in the Gold Coast Colony (West Africa), and the encouraging results, with *Hevea* and *Funtumia* species, are detailed in his official reports.

IN CURRENT PERIODICALS.

KAUSCHUKKULTUR in Deli. By Kurt Basse [A study of progress in rubber planting in northeastern Sumatra, particularly of *Ficus elastica*] = *Der Tropenpflanzer*, Berlin, X-2 (February, 1906). Pp. 88-106.

Einiges über *Landolphia*. By John Booth. [A summary of facts regarding this genus.] = *Der Tropenpflanzer*, Berlin, IX-12 (December, 1905). Pp. 712-716.

* * *

THE London *India-Rubber Journal* has issued its sixth annual “Diary and Year Book,” containing pages for memoranda for each business day during 1906, together with a printed section containing much trade and statistical data of use to the rubber branch in Great Britain, conveniently arranged for reference. The yearly editions of this work have shown continuous improvement and the publishers express their pleasure, at the steady growth in the appreciation shown by their patrons.

FRENCH BUY ENGLISH OILCLOTH.

CONSUL MURPHY, of Bordeaux, responds to a letter from South Carolina requesting information in regard to the manufacture of table oilcloth and the extent of its use in the Bordeaux district. He replies:

“There is not a single manufactory of table oilcloth in the ten departments of France within the jurisdiction of this consulate. The only oilcloth factory in France of any importance is in the Department of Seine-Inferieure. The use of table oilcloth is, however, almost universal throughout the south of France, but whether American manufacturers would be able to compete successfully with the English firms who largely control the market is a question I am unable to answer in the absence of full information respecting prices and grades. In my inquiries respecting this matter among the leading houses in Bordeaux selling this particular line of goods I find that the firm of James Williamson & Sons, of Lancaster, England, seems to be able to control the French market for table oilcloths and to establish prices.”

REVIEW OF THE CRUDE RUBBER MARKET.

PRICES have been well maintained during the month following our last report, in spite of the exceptionally heavy receipts at primary markets. Present quotations remain as last reported for first grades of Pará, with a slight advance on coarse Pará and throughout the list of Africans and Centrals.

January witnessed larger entries of rubber at Pará than any previous month in the history of the trade—5710 tons. The record before had been 5000 tons, in March, 1905. Exports from the Amazon were also large during January:

To United States.....	kilos	2,075,242
To Great Britain.....		1,885,738
To Continental Europe.....		793,044

Total..... 4,754,024

Total arrivals at Pará (including Caucho) for the first eight months of four crop seasons have been:

Tons.....	1902-03.	1903-04.	1904-05.	1905-06.
	19,520	21,510	22,210	a 23,950
	[a—To February 27.]			

Following is a statement of prices of Pará grades, one year ago, one month ago, and on February 28—the current date:

PARÁ.	March 1, '05.	February 1, '06.	February 28
Islands, fine, new.....	125@ 126	122@ 123	122@ 123
Islands, fine, old.....	none here	none here	none here
Upriver, fine, new.....	128@ 129	126@ 127	126@ 127
Upriver, fine, old.....	none here	none here	none here
Islands, coarse, new.....	75@ 76	73@ 74	73½@ 74
Islands, coarse, old.....	none here	none here	none here
Upriver, coarse, new.....	94@ 95	93@ 94	93½@ 94
Upriver, coarse, old.....	none here	none here	none here
Caucho (Peruvian) sheet.....	72½@ 73½	74@ 75	73@ 74
Caucho (Peruvian) ball.....	79½@ 80	86@ 87	88@ 89

AFRICAN.

AFRICAN.	CENTRALS.
Sierra Leone, 1st qual. 103½@ 104	Esmeralda, sausage... 88@ 89
Massai, red..... 103½@ 104	Guayaquil, strip..... 74@ 75
Benguella..... 84½@ 85	Nicaragua, scrap..... 84@ 85
Cameroon ball..... 74 @ 75	Panama, slab..... 65@ 66
Accra flake..... 25 @ 26	Mexican, scrap..... 86@ 87
Lopori ball, prime..... 114 @ 115	Mexican, slab..... 63@ 64
Lopori strip, prime..... 98 @ 99	Mangabeira, sheet..... 60@ 70
Madagascar, pinky..... 95 @ 96	EAST INDIAN.
Ikelemba..... 115 @ 116	Assam..... 97@ 98
	Borneo..... 45@ 49

Late Pará cables quote:

Per Kilo	Per Kilo.
Islands, fine..... 5\$400	Upriver, fine..... 6\$500
Islands, coarse..... 2\$900	Upriver, coarse..... 4\$400

Exchange, 161½d.

Last Manáos advices:

Upriver, fine..... 6\$400	Upriver, coarse..... 3\$900
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Exchange, 163½d.

In regard to the financial situation, Albert B. Beers (broker in India rubber, No. 68 William street, New York), advises us:

During the first half of February money eased considerably, and there was a fairly good demand for paper both in town and out at 5 @ 6 per cent, but the latter part of the month the market has stiffened considerably, and the demand for paper has dropped to small proportions at 5½ @ 6 per cent.

Statistics of Para Rubber (Excluding Caucho).

NEW YORK.				
	Fine and Medium.	Coarse.	Total. 1905.	Total. 1904.
Stocks, January 1..... tons	117	5 = 122	69	56
Arrivals, January.....	1151	653 = 1804	2073	1418

Aggregating.....	1268	658 = 1926	2142	1474
Deliveries, January.....	1051	651 = 1702	1985	1410
Stocks, January 31.....	217	7 = 224	157	64

PARÁ.

ENGLAND.

	1906.	1905.	1904.
Stocks, January 1..... tons	585	200	370
Arrivals, January.....	4720	3775	3760

Aggregating.....	5305	3975	4130
Deliveries, January.....	3845	2719	3565

Stocks, January 31.....	1460	1256	565
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	1906.	1905.	1904.
World's visible supply, January 31..... tons	4062	2972	3717
Pará Receipts, July 1 to January 31.....	18,319	16,326	16,235
Pará Receipts of Caucho, same dates.....	2065	1504	1519
Afloat from Pará to United States, Jan. 31.....	721	529	1418
Afloat from Pará to Europe, January 31.....	1197	675	1020

Ceylon (Plantation) Rubber Exports, 1905.

DESTINATION.		Pounds.	Pounds.
Great Britain.....	124,738	Holland.....	125
Germany.....	19,887	Sweden.....	21
Belgium.....	10,356		
United States.....	10,054	Total, 1905.....	168,547
Australia.....	1,152	Total, 1904.....	77,212
France.....	2,184	Total, 1903.....	41,798

Bordeaux.

IMPORTATIONS OF CAOUTCHOUC.

	1904.	1905.
January..... kilos	54,550	130,255
February.....	169,025	126,540
March.....	94,615	173,355
April.....	121,560	152,650
May.....	91,125	74,700
June.....	65,060	77,100
July.....	72,220	71,150
August.....	208,185	110,700
September.....	87,400	103,800
October.....	57,903	60,650
November.....	71,970	123,230
December.....		

Total..... 1,093,553 1,204,130

Antwerp.

The inscription sale on February 16 resulted in sales as follows:

	Offered.	Sold.
Congo sorts..... kilos	194,152	191,017
Other sorts.....	72,704	57,555

Total..... 266,856 258,572

Prices were higher than the brokers' estimations, based upon results of the January inscription, by an average of 32 centimes per kilo, or about 3 per cent. Messrs. C. Schmid & Co. successeurs advise THE INDIA RUBBER WORLD that some of the more important lots sold were:

	Valuation.	Sold at.
10 tons Lopori II..... francs	8 65	9.57½
19 " Maringa.....	5.80	6.27½
15 " Aruwimi.....	11.75	12.07½
8 " Lac Leopold.....	12.70	12.90
10 " Congo M'Poko.....	12.25	12.72½
27 " Kasai Loanda.....	11.30	11.47½
20 " Kasai Loanda Sankura.....	10.50	10.72½
7 " Lomami strips.....	12.25	12 25

Small lots of Straits Settlements plantation biscuits and crepe sold at 16.80 francs [- \$1.47½].

RUBBER ARRIVALS AT ANTWERP.

JANUARY 22.—By the *Philippeville*, from the Congo :

Bunge & Co. (Société Général Africaine)	78,000 Kilos
Do	35,000 "
Do (Chemins de fer Grand Lacs)	9,000 "
Do (Cie. du Kasai)	75,000 "
Société Coloniale Anversoise (Belge du Haut Congo)	21,000 "
Do (Cie. de Lomami)	5,000 "
Do (Süd Kamerun)	2,500 "
Do	1,500 "
Comptoir Commercial Congolais	12,000 "
M. S. Cols. (Société Baniembe)	1,500 "
Do (C. D'Heygere)	500 "
Edmond Van Steensel (Cie. Bruxelloise Commerce du Haut Congo)	3,000 "
G. & C. Kreglinger (Société "La Lobay")	8,000 "
Comptoir des Produits Coloniaux (Ekela, Kadei Sangha)	4,500 "
Do (Société N'Goko Sangha)	1,500 "
Cie. Commerciale des Colonies (Cie. de l'N'Keme et l'N'Ken)	3,000 "
Do (La Haut Sangha)	10,500 "
Société Général de Commerce (Alimaienne)	4,500 "
Charles Dethier (Société La "M'Poko")	6,500 "
Société Equatoriale Congolaise (Société l'Ikelemba)	3,000 "

Total.....285,500 kilos

FEBRUARY 13.—By the *Leopoldville*, from the Congo :

Bunge & Co. (Société General Africaine)	147,000 kilos
Do (Chemins de fer Grand Lacs)	13,000 "
Do (Société A B I R)	7,500 "
Do Comité Special Katanga	13,000 "
Do Sultanats du Haut Ubangi	24,000 "
Do (Société "La Kotto")	8,000 "
Société Coloniale Anversoise (Süd Kamerun)	5,500 "
Do	4,000 "
Do (Belge du Haut Congo)	1,200 "
Do (Cie. de Lomami)	8,000 "
Do (Cie. du Kasai)	111,000 "
Do	1,300 "
Do (Cie Française du Haut Congo)	5,000 "
Comptoir Commercial Congolais	41,000 "
Charles Dethier (Belgika)	1,000 "
M. S. Cols (Mr. D'Heygero)	1,100 "
L. & W. Van de Velde	6,000 "

Total.....397 600 kilos

Liverpool.

EDMUND SCHLÜTER & Co. report [January 31] :

If prices appear unduly high in face of the large visible supply it must be taken into consideration that the latter is expected to show a considerable reduction during February April. Our advices from Brazil for some time past have been that the ultimate result of the crop will not exceed its predecessor to a very large extent. We therefore continue to believe that it will be good policy to profit by any temporary reaction.

Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers for car-load lots in cents per pound—show a slight advance as compared with last month :

Old Rubber Boots and Shoes	Domestic.....	7½ @ 7¼
Do	Foreign.....	6¼ @ 6½
Pneumatic Bicycle Tires.....		6¼ @ 6½
Solid Rubber Wagon and Carriage Tires.....		8½ @ 8½
White Trimmed Rubber.....		10½ @ 11
Heavy Black Rubber.....		5¾ @ 6
Air Brake Hose.....		3¾ @ 3½
Fire and Large Hose.....		3 @ 3¼
Garden Hose.....		2½ @ 2½
Matting.....		1¼ @ 1½

A report reaches New York from Russia that the long discussed export duty on old rubber shoes is to become effective on March 1, but confirmation cannot be had among the best informed sources on this side of the Atlantic. The rate mentioned—£10 per ton—would figure out about 2½ cents per pound in American money.

WORLD'S VISIBLE SUPPLY OF PARA, JANUARY 31.

	1900	1905	1904	1903	1902
Tons.....	5449	3677	4249	3008	5272
Prices, hard fine..	5 5	5 3	4 3¼	3 7	3 2½

LIVERPOOL STOCKS OF AFRICAN RUBBER, JANUARY 31.

	1906	1905	1904	1903	1902
1906.....	301	1903.....	432	1900.....	500
1905.....	340	1902.....	520	1899.....	393
1904.....	294	1901.....	553	1898.....	381

MESSRS. JOSEPH FYNNEY & Co., Harley buildings, Oldhall street India-rubber merchants and importers, have presented their friend, in the trade with a handsome "Diary for 1906" with useful statistics of rubber and "loss in washing" tables—pocket size and very convenient.

MR. GEORGE MACLEOD announces his withdrawal from the firm of Macleod & Co., rubber and general merchants, 57, Tower buildings, Liverpool, which firm will be continued under the same style by Messrs. William Chadwick and Herbert Evan Roberts, at the same address.

London.

EDWARD TILL & Co. report stocks [February 1] :

	1906	1905	1904
Pará sorts.....	—	—	—
Borneo.....	65	14	25
Assam and Rangoon.....	10	1	4
Penang.....	311	99	—
Other sorts.....	194	200	211

Total.....580 314 240

	1906	1905	1904
Pará sorts.....	465	359	590
Caucho.....	84	150	78
Other sorts.....	410	475	433

Total, United Kingdom.....1539 1298 1341

PRICES PAID DURING JANUARY.

	1906	1905	1904
Pará, fine, hard.....	5/ 4¼ @ 5/ 4¾ 5/ 0¾ @ 5/ 3½ 3/ 11½ @ 4/ 4		
Do soft.....	5/ 2¼ @ 5/ 2½ 4/ 10¼ @ 5/ 1 3/ 10¼ @ 4/ 3½		
Negroheads, scrappy 3/ 11 @ 4' 3/ 9 @ 3/ 10¾ 3/ 3 @ 3 4			
Do Cameta 3/ 2½ @ 3/ 3 2/ 8¾ @ 3/ 2/ 4¾ @ 2/ 8			
Bolivian.....	5 4¼ @ 5/ 5 5/ 1 @ 5/ 3¾ 4 @ 4 4½		
Caucho, ball.....	3/ 8 @ 3/ 9¾ 3 3¾ @ 3 4½ 3 2 @ 3 3		
Do slab.....	3/ 1½ @ 3/ 2½ 2 0 @ 2/ 11 2/ 5 @ 2 8½		
Do tails.....	No sales	3/	No sales

FEBRUARY 9.—*Pará*.—The market continues very firm and prices are again higher. Considerable sales of hard fine have been made at 5s. 5d., both for spot and delivery, and there are buyers of forward delivery at 5s. 5¼d., but no sellers. Considerable sales of soft fine have been made afloat at 5s. 3¼d., but there are now buyers at 5s. 3½d. for spot, and at 5s. 4d. for March-April delivery. Scrappy has been sold at 3s. 11½d. and Cametas at 3s. 3½d. per pound.

Bolivian.—Small sales of fine at 5s. 5d. but the principal importers are not sellers thereat. A good business has been done in Bolivian scrappy at 4s. and ball at 3s. 9d. per pound.

Peruvians.—Dearer, with sales of a small lot fine at 5s. 4¼d. @ 5s. 4¾d. and now landing and afloat at 5s. 4½d. per pound; ball at 3s. 8¼d. @ 3s. 8¾d. spot and near; scrappy at 3s. 9½d. @ 3s. 10½d.; slab at 3s. 1½d. @ 3s. 2d. per pound.

BUSINESS OPPORTUNITY.

WELL known Liverpool and reputable firm of India-rubber Merchants and Importers are open to buy on commission for good American and otherwise act as required, etc. Address LIVERPOOL, care of THE INDIA RUBBER WORLD. [813]

WANTED.

WANTED—Several looms for weaving Cotton Jackets for Hose. Give full particulars and send sample of products to R. A., care of THE INDIA RUBBER WORLD. [926]

Mollendo—None reported, value 5s. 3d. @ 5s. 3½d. per pound.
Plantation.—Firm at 6s. 2d. @ 6s. 2½d., Ceylon and Straits; medium sorts scarce and wanted.

The receipts of Pará and Peruvians for January were the largest on record, viz.: 5,710 tons against 4,590 last year, making the total receipts of this crop from July 1, 1905, to January 31, 1906, 20,400 tons against 17,900 tons July 1, 1904, to January 31, 1905, showing up to date an increase of 2,500 tons. The price to-day of fine Pará is 5s. 5d. against 5s. 2½d. last year and 4s. 4d. February 1, 1904. No auctions here this week.

LEWIS & PEAT.

More Rubber From Accra.

THE export of Accra rubber (from the Gold Coast Colony, West Africa), beginning in a very small way in 1880, increased rapidly until, in 1898, it reached nearly 6,000,000 pounds. It then declined rapidly, to about one-fourth of this amount. There has again been an increase, due, according to local officials, to new districts having been opened to trade, to replace the districts where the rubber had become exhausted. The official figures for 12 years follow:

YEAR	Pounds.	YEAR.	Pounds.	YEAR.	Pounds.
1893.....	3,395,990	1897.....	4,957,016	1901.....	1,520,009
1894.....	3,027,527	1898.....	5,954,984	1902.....	1,590,974
1895.....	4,022,385	1899.....	5,572,554	1903.....	2,258,981
1896.....	3,735,439	1900.....	3,452,440	1904.....	4,013,837

Larger Exports From Bolivia.

A REPORT made by the Bolivian secretary of the treasury to the national congress gives the details of exports of rubber from that country for 1904, which are given below in comparison with the returns for three years preceding. The total of exports is less now than in some former years, but then the Bolivian returns embraced the Acre district, which now belongs to Brazil. Excluding the Acre, the output of Bolivian rubber was larger in 1904 than in any previous year, the increase being shared by all the customs districts, as shown below:

	1901.	1902.	1903.	1904.
[Shipped via Manáos]				
El Acre.....pounds	5,054,436	1,757,510	.....	.....
[Via Madeira river]				
Villa Bella.....	1,749,205	1,512,731	1,493,221	1,829,557
[Via Pacific ports]				
La Paz.....	627,783	631,288	535,623	848,767
Pelechuco.....	.....	.....	102,465	.....
Oruro.....	24,171	42,383	542,353	269,394
[Through Argentina]				
Puerto Suarez.....	167,543	238,577	229,796	493,381
Tarija.....	.....	4,096	2,816	15,382
Total.....	7,623,138	4,189,585	2,906,274	3,456,481
Excluding Acre..	2,568,696	2,432,075	2,906,274	3,456,481

Para.

R. O. AHLERS & Co. report [January 22]:

Notwithstanding that the demand has been sufficient to absorb supplies, the late activity has become less spirited and business could only keep going by sellers modifying their pretensions. Prices had evidently reached so high a level that little was needed to cause some disturbance, and this was offered not only by weaker reports from the home markets, but also by the effect of liberal and increasing receipts. The decline, although only moderate, is more keenly felt by sellers in consequence of currency prices having also suffered from the advance of sterling exchange.

R. O. AHLERS & Co. report [February 1]:

In the attitude of the market, which for some time has been under the influence of dullness and depreciation, a notable change for the better has taken place in consequence of more reassuring advices from the consuming centers, and with the returning feeling of confidence business has at least for the present freed itself from the effects of depression in spite of the continuation of large receipts. Increasing demand has been followed by a firm and hardening tendency, producing a beneficial effect on prices, which is all the more appreciated by sellers as the currency is adversely affected by the advancing sterling exchange.

Rubber Receipts at Manaos.

DURING January and seven months of the crop season for three years [courtesy of Messrs. Scholz & Co.]:

FROM -	JANUARY.			JULY-JANUARY.		
	1906	1905.	1904.	1906.	1905.	1904.
Rio Purus-Acre ... tons	1913	1767	1650	4746	3776	3851
Rio Madeira.....	159	194	247	1796	1880	1791
Rio Jurua.....	713	546	675	2219	1730	2110
Rio Javary—Iquitos...	319	239	344	2284	2055	1795
Rio Solimões.....	119	169	104	767	603	570
Rio Negro.....	117	164	113	285	339	267
Total.....	3340	3079	3133	12097	10383	10384
Caucho.....	1001	1092	712	2114	1742	1613
Total.....	4341	4171	3845	14211	12125	11997

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

February 5.—By the steamer *Boniface*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
General Rubber Co...	222,700	59,800	145,800	96,200	524,500
A. T. Morse & Co.....	122,900	26,200	132,500	99,900	381,500
Poel & Arnold.....	133,200	76,800	102,200	61,000	373,200
N. Y. Commercial Co..	216,600	45,600	74,900	27,500	364,600
Neale & Co.....	8,700	2,900	49,700	.....	61,300
Constantine P. Santos.	29,300	3,200	9,600	.....	42,100

JANUARY EXPORTS OF INDIA-RUBBER FROM PARA (KILOGRAMS).

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Schrader, Gruner & Co.....	81,300	34,909	97,132	410	213,751	325,138	45,304	70,922	77,138	518,502	732,253
Scholz Hartje & Co.....	24,837	8,468	99,870	10,285	133,460	71,837	11,050	12,551	66,681	162,125	315,585
A. H. Alden.....	84,371	16,206	74,595	12,043	187,215	59,883	9,680	19,163	450	89,176	276,391
J. A. Mendes & Co.....	129,855	25,142	107,708	1,229	263,934	.....	.....	.....	.....	.....	263,934
Neale & Staats.....	31,719	8,686	95,670	23	136,098	38,516	4,598	19,346	2,035	64,495	200,593
R. Suarez & Co.....	.....	.....	.....	.....	.....	63,036	.....	9,919	11,107	114,062	114,062
J. Marques & Co.....	21,962	3,225	23,193	364	48,744	30,211	3,355	15,113	.....	48,679	97,423
Pires, Teixeira & Co.....	16,688	.....	8,841	.....	25,529	26,609	.....	8,456	.....	35,065	60,594
Denis Crouan & Co.....	12,412	10,345	17,370	625	70,752	.....	.....	.....	.....	.....	70,752
Singlehurst Brocklehurst & Co.....	.....	.....	.....	.....	.....	35,970	1,061	4,149	.....	41,180	41,180
R. O. Ahlers & Co.....	4,223	1,567	1,065	.....	7,755	6,709	.....	814	692	8,215	15,970
B. A. Antunes & Co.....	.....	.....	.....	7,500	7,500	.....	.....	.....	.....	.....	7,500
Sundry small shippers.....	.....	.....	.....	.....	.....	19,010	3,520	3,395	925	26,850	26,850
Direct from Manáos.....	445,961	142,095	168,196	161,075	917,327	512,171	88,491	109,934	352,362	1,062,958	1,980,285
Direct from Iquitos.....	8,523	.....	6,408	28,246	43,177	140,053	10,112	92,881	264,429	507,475	550,652
Total.....	901,851	250,643	700,948	221,800	2,075,242	1,359,143	177,177	366,643	775,819	2,678,782	4,754,024

Hagemeyer & Brunn..	13,500	2,800	6,700	.....	23,000
G. Amsinck & Co.....	.....	.....	.....	15,000=	15,000

Total.....746,900 217,300 521,400 209,600 1,785,200

February 15.—By the steamer *Maranhense*, from Manáos and Para:

Poel & Arnold.....	215,400	60,800	60,200	133,900	479,300
A. T. Morse & Co.....	153,500	35,500	146,600	52,300=	387,900
General Rubber Co....	225,600	65,100	59,200	14,400=	364,300
N. Y. Commercial Co..	54,800	9,700	95,200	300=	160,000
Neale & Co.....	21,500	1,000	57,000	.....	80,400
Hagemeyer & Brunn..	41,500	1,400	21,800	.....	64,700
Edmund Reeks & Co..	18,800	2,300	11,100	.....	32,200
Constantine P. Santos.	7,200	300	4,900	.....	12,400

Total..... 738,300 176,100 465,900 200,900 =1,581,200

February 26.—By the steamer *Camelense*, from Manáos and Pará:

N. Y. Commercial Co..	159,500	40,600	72,600	64,500=	337,200
A. T. Morse & Co.....	91,600	24,500	92,700	13,600=	222,400
Poel & Arnold.....	26,000	15,500	13,200	101,400=	157,000
Neale & Co.....	34,600	8,700	45,300	.....	88,600
General Rubber Co....	33,100	23,000	15,800	800=	72,700
Constantine P. Santos..	26,300	7,400	15,300	600=	49,600
Edmund Reeks & Co....	4,200	.....	20,000	.....	24,800
Hagemeyer & Brunn..	6,700	1,700	2,700	.....	11,100

Total..... 382,000 122,000 277,600 180,900 = 963,400

[Note.—The steamer *Polycarp* from Para, is due at New York, March 1, with 755 tons Rubber and 65 tons Caucho.]

PARA RUBBER VIA EUROPE.

JAN. 24.—By the *Moltke*—Hamburg:

Poel & Arnold (Fine).....

FEB. 1.—By the *Canada*—Liverpool:

Poel & Arnold (Coarse).....

FEB. 6.—By the *Bluecher*—Hamburg:

Poel & Arnold (Fine).....

FEB. 10.—By the *Lucania*—Liverpool:

New York Commercial Co. (Fine)....

FEB. 8.—By the *Baltic*—Liverpool:

A. T. Morse & Co. Coarse).....

FEB. 20.—By the *Amerika*—Hamburg:

Poel & Arnold (Fine).....

OTHER ARRIVALS AT NEW YORK

CENTRALS.

JAN. 29.—By the *Yucatan*—Mexico:

H. Marquardt & Co.....

Harburger & Stack.....

E. Steiger & Co.....

Joseph Ware.....

Fred Probst & Co.....

Thebaud Brothers.....

JAN. 29.—By the *Finance*—Colon:

Hirzel, Feltman & Co.....

Mann & Emdon.....

Barclay & Co.....

JAN. 29.—By the *Niagara*—Tampico:

New York Commercial Co.....

Continental Mexico Co.....

JAN. 30.—By the *El Monte*—New Orleans:

A. T. Morse & Co.....

A. N. Rotholz & Co.....

JAN. 30.—By the *Venetia*—Greystown:

Hirzel, Feltman & Co.....

E. B. Strout.....

Laurence Johnson & Co.....

G. Amsinck & Co.....

JAN. 31. By the *Siberia*—Colombia:

American Trading Co.....

A. Held.....

Roldan & Van Sickle.....

Isaac Brandon & Bros.....

FEB. 2.—By the *La Plata*—Greystown:

E. B. Strout.....

G. Amsinck & Co.....

George A. Alden & Co.....

A. M. Capen Sons.....

Meyer Hecht.....

Eggers & Heinlein.....

A. Held.....

A. Santos & Co.....

FEB. 5.—By the *Minneapolis*—London:

General Rubber Co.....

FEB. 5.—By the *Esperanza*—Mexico:

Harburger & Stack.....

L. N. Chemedlin & Co.....

American Trading Co.....

FEB. 6. By the *Altai*—Colombia:

Kunhardt & Co.....

Roldan & Van Sickle.....

Isaac Brandon & Bros.....

FEB. 5. By the *Colon*—Colon:

Mann & Emdon.....

American Trading Co.....

CENTRALS—Continued.

POUNDS.	G. Amsinck & Co.....	1,500
	Eggers & Heinlein.....	1,000
	George A. Alden & Co.....	1,000
34,000	R. G. Barthold.....	500
	A. M. Capen Sons.....	100

FEB. 5.—By the *Tintorello*—Bahia:

Hagemeyer & Brunn.....

Hirsch & Kaiser.....

J. H. Rossbach & Bros.....

American Commercial Co.....

Poel & Arnold.....

FEB. 7.—By the *Prins Wilhelm*—Hamburg:

Rubber Trading Co.....

FEB. 9.—By the *Excelsior*—New Orleans:

Manhattan Rubber Mfg Co.....

FEB. 10.—By the *Vigilancia*—Mexico:

Harburger & Stack.....

Graham, Hinkley & Co.....

E. Steiger & Co.....

Strube & Ultze.....

H. Marquardt & Co.....

FEB. 10.—By the *Advance*—Colon:

Hirzel, Feltman & Co.....

G. Amsinck & Co.....

A. Santos & Co.....

Dumarest Bros. & Co.....

Piza, Nephews & Co.....

Flint & Co.....

Roldan & Van Sickle.....

Mann & Emdon.....

Isaac Brandon & Bros.....

W. R. Grace & Co.....

American Trading Co.....

Mecke & Co.....

Isaac Kubie & Co.....

A. M. Capen Sons.....

Laurence Johnson & Co.....

FEB. 13.—By the *City Washington*—Tampico:

Edward Maurer.....

New York Commercial Co.....

FEB. 14.—By the *Sarmia*—Colombia:

D. A. De Lima & Co.....

Isaac Brandon & Bros.....

Isaac Kubie & Co.....

Waidelrig & Focke.....

Andreas & Co.....

A. A. Lindo & Co.....

FEB. 15.—By the *Panama*—Colon:

Mann & Emdon.....

Lawrence Johnson & Co.....

Dumarest Bros. & Co.....

J. A. Medina & Co.....

FEB. 17.—By the *Cameous*—Bahia:

Hirsch & Kaiser.....

J. H. Rossbach & Bros.....

Poel & Arnold.....

Hagemeyer & Brunn.....

American Commercial Co.....

FEB. 19.—By the *Virginia*—Greystown:

G. Amsinck & Co.....

Laurence Johnson & Co.....

J. A. Medina & Co.....

Eggers & Heinlein.....

American Trading Co.....

Hirzel, Feltman & Co.....

H. Marquardt & Co.....

European Account.....

FEB. 10.—By the *Santiago*—Mexico:

New York Commercial Co.....

Fred Probst & Co.....

H. Marquardt & Co.....

American Trading Co.....

CENTRALS—Continued

FEB. 19. By the *Albania*—Colon:

Hirzel, Feltman & Co.....

Dumarest Bros. & Co.....

F. Rosenstein & Co.....

G. Amsinck & Co.....

George A. Alden & Co.....

A. Santos & Co.....

Roldan & Van Sickle.....

L. N. Chemedlin & Co.....

Isaac Brandon & Bros.....

FEB. 20.—By the *El Monte*—New Orleans:

A. T. Morse & Co.....

A. N. Rotholz.....

G. Amsinck & Co.....

Eggers & Heinlein.....

FEB. 20.—By the *Amerika*—Hamburg:

General Rubber Co.....

FEB. 20.—By the *Magdalena*—Greystown:

G. Amsinck & Co.....

E. B. Strout.....

Laurence Johnson & Co.....

Roldan & Van Sickle.....

America Trading Co.....

A. D. Straus & Co.....

A. Held.....

Meyer Hecht.....

FEB. 21.—By the *Carb II*—Truxillo:

Eggers & Heinlein.....

H. W. Peabody & Co.....

AFRICANS.

JAN. 26.—By the *Arabic*—Liverpool:

General Rubber Co.....

Earle Brothers.....

JAN. 27.—By the *Campania*—Liverpool:

F. R. Muller Co.....

George A. Alden & Co.....

JAN. 29.—By the *Finland*—Antwerp:

Poel & Arnold.....

JAN. 29.—By the *Patricia*—Hamburg:

Poel & Arnold.....

A. T. Morse & Co.....

George A. Alden & Co.....

FEB. 1.—By the *Canada*—Liverpool:

Poel & Arnold.....

A. T. Morse & Co.....

FEB. 1.—By the *Teutonic*—Liverpool:

George A. Alden & Co.....

FEB. 2.—By the *Prætor*—Hamburg:

A. T. Morse & Co.....

FEB. 3.—By the *Bordeaux*—Havre:

Poel & Arnold.....

A. T. Morse & Co.....

FEB. 5.—By the *Carmania*—Liverpool:

George A. Alden & Co.....

A. T. Morse & Co.....

Earle Brothers.....

A. W. Bunn.....

FEB. 5.—By the *Fricka*—Bordeaux:

George A. Alden & Co.....

Henry A. Gould Co.....

FEB. 6.—By the *Vaderland*—Antwerp:

Poel & Arnold.....

Western Electric Co.....

Robinson & Tallman.....

Rubber Trading Co.....

FEB. 6.—By the *Bluecher*—Hamburg:

Poel & Arnold.....

Rubber Trading Co.....

A. T. Morse & Co.....

AFRICANS—Continued.

FEB. 8.—By the <i>Baltic</i> =Liverpool:			
General Rubber Co.	85,000		
George A. Alden & Co.	95,000		
A. T. Morse & Co.	22,500		
Poel & Arnold	35,000		
F. R. Muller Co.	22,500	260,000	

FEB. 10.—By the <i>Lucania</i> =Liverpool:			
George A. Alden & Co.	15,000		

FEB. 13.—By the <i>Kroonland</i> =Antwerp:			
George A. Alden & Co.	56,000		
Poel & Arnold	90,000		
Joseph Cantor	50,000	190,000	

FEB. 15.—By the <i>Bovic</i> =Liverpool:			
George A. Alden & Co.	45,000		
Poel & Arnold	35,000		
F. R. Muller Co.	11,000	91,000	

FEB. 15.—By the <i>Waldsee</i> =Hamburg:			
A. T. Morse & Co.	35,000		
George A. Alden & Co.	11,500		
Poel & Arnold	11,500	58,000	

FEB. 15.—By the <i>Majestic</i> =Liverpool:			
Poel & Arnold	20,000		
George A. Alden & Co.	20,000		
General Rubber Co.	20,000		
Hagemeyer & Brunn	15,000	75,000	

FEB. 19.—By the <i>Ville de Rouen</i> =Havre:			
George A. Alden & Co.	5,000		
Henry A. Gould Co.	3,500	8,500	

FEB. 20.—By the <i>Amerika</i> =Hamburg:			
A. T. Morse & Co.	60,000		
Poel & Arnold	25,000		
George A. Alden & Co.	20,000	105,000	

FEB. 21.—By the <i>Ryndam</i> =Rotterdam:			
Poel & Arnold	20,000		
A. T. Morse & Co.	6,000	26,000	

EAST INDIAN.

JAN. 29.—By the <i>Indrasamha</i> =Singapore:			
Poel & Arnold	65,000		
Winter & Smillie	15,000		
Pierre T. Betts	10,000	90,000	

JAN. 31.—By the *Empire*=London:

George A. Alden & Co.	43,000		
F. R. Muller Co.	10,000		
A. T. Morse & Co.	10,000	63,000	

FEB. 8.—By the *Minneapolis*=London:

Poel & Arnold	7,000		
H. W. Peabody Co.	3,000		
George A. Alden & Co.	2,000	12,000	

FEB. 10.—By the *Philadelphia*=London:

Robinson & Tallman	22,500		
A. T. Morse & Co.	11,500	34,000	

FEB. 13.—By the *Schuykill*=Singapore:

George A. Alden & Co.	67,000		
Heabler & Co.	34,000		
Pierre T. Betts	20,000		
Poel & Arnold	20,000		
G. Amisack & Co.	7,000	147,000	

FEB. 15.—By the *America*=London:

George A. Alden & Co.	7,000		
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GUTTA-JELUTONG.

FEB. 13.—By the *Schuykill*=Singapore:

George A. Alden & Co.	200,000		
Windmuller & Roelker	225,000		
Heabler & Co.	110,000		
F. R. Muller & Co.	55,000	590,000	

GUTTA-PERCHA AND BALATA.

POUNDS.

JAN. 29.—By the *Indrasamha*=Singapore:

George A. Alden & Co.	20,000		
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FEB. 2.—By the *Pretoria*=Hamburg:

H. Rost & Co.	18,000		
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FEB. 20.—By the *Amerika*=Hamburg:

To Order	23,000		
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BALATA.

JAN. 27.—By the *New York*=London:

Earle Brothers	6,000		
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FEB. 13.—By the *Natindam*=Rotterdam:

Earle Brothers	17,000		
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CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—JANUARY.

Imports:	Pounds.	Value.
India-rubber	6,162,187	\$5,236,550
Gutta-percha	22,311	12,180
Gutta-jelutong (Pontianak)	192,830	8,241
Total	6,377,328	\$5,256,971

Exports:	Pounds.	Value.
India-rubber	139,650	\$ 89,430
Reclaimed rubber	94,522	12,688
Rubber scrap imported	1,346,850	\$ 92,042

BOSTON ARRIVALS.

POUNDS.

DEC. 2.—By the <i>Saxonia</i> =Liverpool:			
George A. Alden & Co.—African			14,905

DEC. 12.—By the <i>Bosnia</i> =Hamburg:			
Poel & Arnold—African			3,947
George A. Alden & Co.—African			27,089
			31,036

DEC. 13.—By the <i>Michigan</i> =Liverpool:			
George A. Alden & Co.—African			8,936

DEC. 15.—By the <i>Iernia</i> =Liverpool:			
George A. Alden & Co.—African			6,203

DEC. 15.—By the <i>Canadian</i> =Liverpool:			
George A. Alden & Co.—African			3,378
F. R. Muller Co.—African			6,902
			10,280

DEC. 26.—By the <i>Bohemian</i> =Liverpool:			
F. R. Muller Co.—African			5,349
Poel & Arnold—Caucho			22,675
			28,024

DEC. 26.—By the <i>Sachem</i> =Liverpool:			
F. R. Muller & Co.—African			5,361
George A. Alden & Co.—African			3,900
			9,261

Total.....108,645

[Value, \$71,895]

OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS)

UNITED STATES.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
December, 1905	5,966,501	492,236	5,474,265
January-November	58,181,200	3,128,286	55,052,914
Twelve months, 1905	64,147,701	3,620,522	60,527,179
Twelve months, 1904	61,889,758	3,449,433	58,440,325
Twelve months, 1903	55,744,120	3,691,397	52,052,723

GREAT BRITAIN.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
December, 1905	5,351,808	3,111,472	2,240,336
January-November	57,753,136	30,993,536	26,759,600
Twelve months, 1905	63,104,944	34,105,008	28,999,936
Twelve months, 1904	55,557,152	33,415,542	22,141,610
Twelve months, 1903	54,433,680	37,658,768	16,774,912

GERMANY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
December, 1905	4,841,980	1,584,220	3,257,760
January-November	42,222,620	15,687,100	26,535,520
Twelve months, 1905	47,064,600	17,271,320	29,793,280
Twelve months, 1904	38,295,400	10,052,020	28,243,380
Twelve months, 1903	34,290,740	11,214,280	23,076,460

ITALY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
December, 1905			
January-November	1,531,420	49,480	1,281,940
Twelve months, 1905			
Twelve months, 1904			
Twelve months, 1903	1,466,690	148,720	1,318,240

FRANCE.*

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
December, 1905	2,792,020	1,567,580	924,440
January-November	23,091,440	14,783,780	9,207,660
Twelve months, 1905	26,783,460	16,651,360	10,132,100
Twelve months, 1904	20,651,620	11,526,900	9,124,720
Twelve months, 1903	16,918,220	9,631,160	7,287,060

AUSTRIA-HUNGARY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
December, 1905	296,120	440	295,680
January-November	2,719,420	44,880	2,674,540
Twelve months, 1905	3,015,540	45,320	2,970,220
Twelve months, 1904	2,926,520	15,620	2,910,900
Twelve months, 1903	2,783,660	32,120	2,751,540

BELGIUM †

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
December, 1905	1,899,286	2,154,392	† 255,106
January-November	16,779,796	12,805,227	3,974,569
Twelve months, 1905	18,679,082	14,959,619	3,719,463
Twelve months, 1904	17,955,293	16,301,295	1,653,998
Twelve months, 1903	16,941,753	14,051,030	2,882,723

NOTE.—German statistics include Gutta-percha, Balata, old (waste) rubber, and substitutes. British figures include old rubber. French, Austrian, and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

* General Commerce. † Special Commerce. ‡ Net Exports.

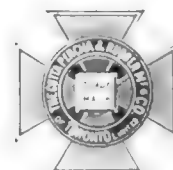
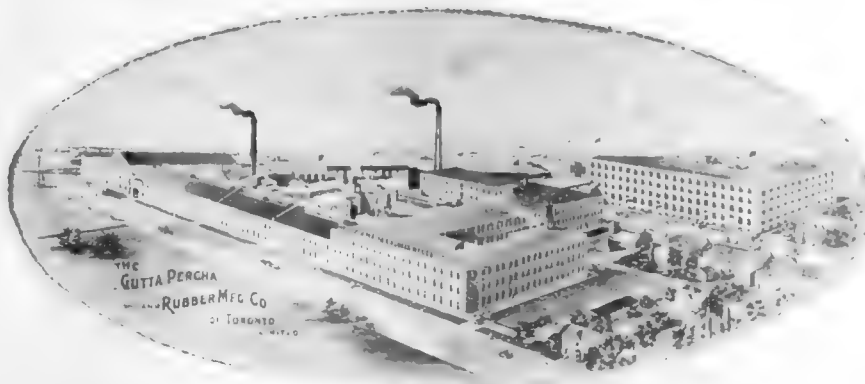
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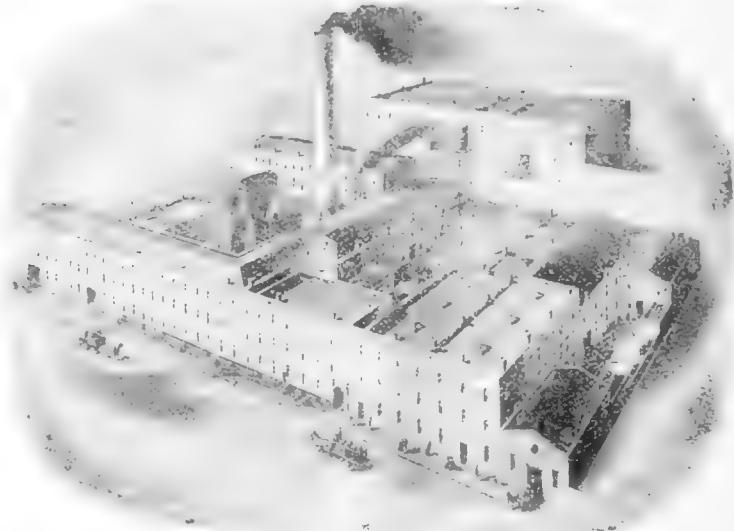
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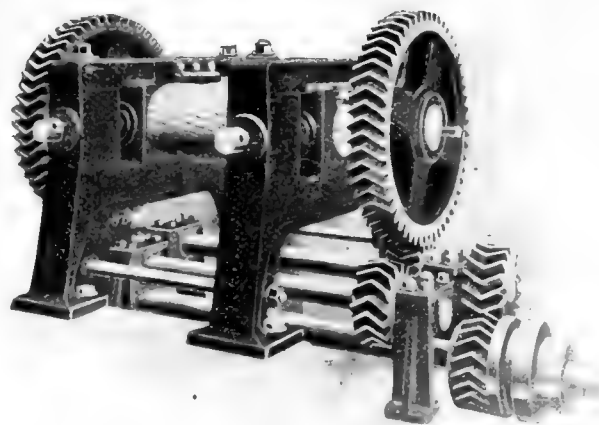
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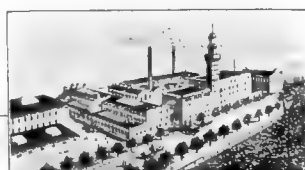
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TENDENCIES IN INSULATION WORK.

DURING the past few years the scarcity of crude rubber has been so keenly felt in every class of manufacture involving its use, that substitutes for it have been sought more actively than ever before. The immense growth of the automobile industry has rendered the shortage of material more serious than in past years, and the wire manufacturers have been hard pressed. Now, truth to tell, there is no genuine substitute for rubber. That wonderful material has qualities, mechanical, chemical, and electrical, which cannot be duplicated. For some special purposes fairly successful substitutes have been introduced, but speaking broadly, rubber still defies imitation.

The electrical industry requires immense amounts of insulating material and it has been hard hit by the rapidly rising cost of the raw material. Half a dozen years ago the result of scarcity of rubber, and keen competition, appeared in rather disastrous form. A great deal of very poor rubber compound was used on insulated wire, producing a covering positively inadequate and unsafe. There are of course rubber compounds which for all ordinary insulating purposes are entirely adequate, but a great deal of "cheap and nasty" wire was put out. Within the later years the fire underwriters have taken active steps to prevent the use of the wretched stuff referred to and have encouraged the adoption of substantially fireproof insulations containing no rubber at all.

The fact is that a bad rubber compound is less safe and reliable than a rubber-free covering, provided the latter is intelligently used. The strongest present tendency in insulated wire manufacture is toward the use, not of rubber substitutes in the ordinary sense of that term, but of substitutes for rubber making no pretense toward similarity to rubber in general properties. Thus for general wiring the influence of the fire underwriters has tended to produce two sharply defined classes of insulation, each with its appropriate field of usefulness—first, high grade rubber insulated wire; second, "slow-burning" or similar wire; and has weighed heavily against the use of inferior rubber compounds. In cables for underground use, too, the tendency is to use either high grade rubber or none at all. To a very great extent the lower grades of rubber cable have been replaced by paper and oiled linen insulated cables, which within certain restrictions are even more successful than rubber, reserving high grade rubber for uses to which it is especially fitted. This tendency we think is a healthy one. It relieves rubber of the odium that attaches to cheap and bad imitations, and sets free the rubber that would be thus misused for purposes of general value.

For certain electrical work there is nothing anywhere nearly as good as a first class thick rubber insulation and there will be a steadily increasing demand for this grade of goods. The less rubber wasted on inferior and dis-

reputable goods the better for the general trade. Every ounce of pure rubber that the world can at present furnish is needed for purposes which admit the substitution of nothing else. Hence, until rubber culture has in course of years renewed the now depleted supply, every really successful effort to replace this substance in its less general uses is a relief.

Rubber occupies among non metallic substances a position akin to that of platinum among the metals. For certain uses it is incomparable to anything else. Like platinum it is produced in amount relatively so small that the discovery of a new use or the sudden increase of an old one produces an immediate and powerful effect upon the market. The search for new sources of rubber—like that for new platinum deposits, has been only moderately successful, but fortunately rubber can be cultivated, while the platinum supply cannot be replenished. In each case the growth of the electrical arts produced a greatly increased demand.

It is fortunate that experience has taught methods of replacing rubber for insulating purposes, else the price of the raw material would be still further enhanced. We look to see further advances made so that rubber can be set apart for its more valuable and important uses, and other materials be used where only the minor qualities of rubber are sought to be duplicated. Thus vulcanite can for certain purposes be adequately replaced, just as pure rubber and rich rubber compounds can be replaced in insulating wires. The extensive present use of high voltages has considerably modified too the demands for insulation. At the highest line pressures nothing but bare wire is used since no practicable thickness of even the very best insulation is able to stand up long against the combination of weathering and voltage strain.

At the next lower range of pressures, employed for instance in arc lighting, insulation is likewise of only moderate value and its purposes are served satisfactorily by the so-called weather proof wires. In interior work on the contrary, although the voltages tend to increase, first class rubber insulation is not only adequate but most valuable, and will be in constant demand in increasing quantities in spite of the extensive use of "slow burning" wire, an improved form of the "underwriter's" wire of twenty years ago, under special conditions. Thus in spite of the lessened use of rubber covered wire for some purposes, there remains a demand for it which is quite all the available rubber supply can comfortably stand in addition to the other multifarious calls for it. Until there is a larger supply of the raw material, a largely increased demand for rubber insulation would be rather a dubious blessing.

RUBBER DAY IN CONGRESS.

THE promoters of the "Colorado rubber" scheme have been trying to get a lift from the United States government. Evidently private investors have

not been putting up money fast enough; an official indorsement of "rabbit weed" from Washington might help the sale of company shares. At any rate, a Congressman from Colorado brought in a bill to lease to a rubber company in that state, as he expressed it, "a very small tract of useless non agricultural land" in the public domain. Now the preamble to this bill states that the company in question—

has after an exhaustive search, extending over several States and Territories, determined that the plant [*Picradenia floribunda utilis*] has reached its highest development (so far as the percentage and quality of its gum is concerned) in the specimens found on the tract of desert land described below [viz.: in the bill].

The land involved, it appears, can be bought for all time for a little more than \$6000, but the company seeking to avert the threatened rubber famine by developing a new source of supply—this company capitalized (on paper) for hundreds of thousands of dollars—rather than buy outright the pick and choice of "rabbit weed" land for \$6000, prefers to get control of it through political "pull."

But the course of a bill in Congress does not always run smooth. Perhaps the introducer of the "Colorado rubber" bill had annoyed some of his fellow members. An amendment was proposed, avowedly to prevent—this infant rubber concern from being either partly purchased or crushed out by the great rubber trust of the United States, and almost the balance of the world—an amendment proposing that in the event of the "rubber trust" going into "rabbit weed," the leased lands should revert to the government. But the father of the bill declined the amendment.

The bill was before the House on March 16—on a request for unanimous consent for its consideration—at a time when the heated passions excited by the recent debate over the creation of a new State or two had not cooled off, and one Congressman felt incensed because the Speaker was willing to have the rubber bill come up, while, as reputed, using his official position to obstruct more important legislation. Here is an extract from the *Record*:

MR. SHACKLEFORD. - - - Who stands to-day between a progressive, enlightened people and the statehood to which they are entitled? You sir [addressing the Speaker]; only you. You crack your whip and a majority of the H. use comes at your feet. You turn your thumbs down and the House deals a death blow to prostrate, bleeding Oklahoma. - - -

MR. TAWNEY. Mr. Speaker, I make the point of order that the gentleman is not speaking to the question before the House.

THE SPEAKER. The Chair was not able to hear the remarks of the gentlemen and does not know whether that point of order was well taken or not.

And so the talk ran, touching anything but rubber. But the end had to come some time; was there unanimous consent to consideration of the Colorado rubber bill? The deciding speech fills only a line:

MR. TAWNEY. Mr. Speaker, I object to the consideration.

On a later day, however the Colorado bill was brought up again in the House and passed. But not until a member from Massachusetts had risen "to show that it

is exciting solicitude among the rubber manufacturers of the country and therefore should be fully and carefully explained to demonstrate that they cannot be injured by its passage." Still later the bill passed the Senate, and it now awaits the signature of the President.

THERE HAVE BEEN MANY COMPLAINTS against the New York subway, some just and some unjust, and some that have gone wide of the mark. Many complain of the draughts, while others complain of the lack of air. Now these two complaints seem to conflict, since there can hardly be too much and too little air at the same time and place. Some time ago a citizen who evidently objected to air, suggested that the subway company make their trains solid vestibuled by using the rubber device employed on railroad trains, which would have the effect, as he said, of "completely excluding the air from the platform." Such a scheme would undoubtedly increase the trade in rubber, but an increased trade in fresh air would doubtless be of more immediate utility to the majority of "ground hogs" who use the subway regularly.

THE RUBBER EXHIBITION to be held in the Far East in September, to consist of products of rubber plantations, and demonstrate the various methods, processes, and mechanical appliances involved, doubtless will attract more widespread attention than any other agricultural show ever organized. Will our friends who are planting in Mexico, when they have been so long "in rubber," be able to make as good a showing as their British cousins?

RUBBER IS WATERPROOF in more senses than one. There was a million pounds of the stuff on a steamer which narrowly escaped being wrecked just outside New York harbor in a recent storm. But if the vessel had been lost, doubtless much of the rubber would have been recovered, none the worse for a sea bath. At the same time England's most largely capitalized rubber company was wringing several millions of dollars of "water" from its assets sheet, its directors congratulating themselves upon the excellent condition of the company in spite of the inflated issue of shares outstanding for so long. Evidently rubber is impervious to water however applied.

WE HAVE FOLLOWED WITH INTEREST the records of the London auctions in relation to the rubber coming from a certain plantation in the Malay States. It appears that at the last half dozen sales, 156 cases of rubber from this estate have been offered, of which 129 brought 6 shillings [= \$1.46] per pound, and some lots as high as 6s. 3 $\frac{1}{4}$ d. [81.52 $\frac{1}{2}$]. Even the "scrap" brought 5s. [= \$1.21 $\frac{1}{8}$] and upward, except part of one lot of 8 cases, which went under the hammer at 4 shillings and a farthing. These facts are of such interest, for legitimate purposes, that it is to be regretted that their publication helps certain promoters to set even good rubber properties for more than their value.

THE GERMANS HAVE REFUSED TO BELIEVE, with some Americans, that submarine cables could be made only in England. Hence they have gone ahead and put themselves in a position to make their own ocean cables. Some inter-

esting comments on their success are reproduced on another page from a high English source. Meanwhile we are obliged to chronicle the news of two cable laying operations in the Pacific, backed by American capital but employing the products of English factories. If America continues to buy cables abroad, doubtless we shall soon see German factories seeking contracts here.

THE BEGINNINGS OF THE RUBBER INDUSTRY continue to be recalled by the anniversaries of the survivors, now few in number, of the era before vulcanization was known. Some historical matter of this sort we print this month, not the least interesting feature of which is the pointing out of the great changes that have taken place in rubber trade methods within the lifetime of persons still active in the trade. Capacity for such change is the best evidence of vitality, and let us hope that it will long continue.

AT A RECENT BANKERS' BANQUET in Philadelphia Mr. Simeon Ford, of New York, made a witty speech, in which he favored elastic currency. Playing on the name, he said that he would like a currency so elastic that a \$5 note could be stretched over his hotel bill, and then snap back into his pocket. This amusing turn to the word "elastic" recalls the common complaint of economists, that the United States currency always stretches the wrong way. When business is dull, for want of currency, it is to the interest of bankers to so manipulate their bond holdings, that the volume of currency is further restricted. The reverse happens during brisk trade, so that the ups and downs of business are always exaggerated, much to the distress of straightforward dealing, which wishes neither booms nor panics.

IF THE DEMAND FOR RUBBER TIRES continues to increase, the rubber planters can feel encouraged, even if every other use of this commodity should cease.

BRAZILIAN IMPORTS OF RUBBER GOODS.

OFFICIAL statement of values (in milreis), during two calendar years. [These figures doubtless fail to include many articles embracing more or less rubber, but classified under other headings than "manufactures of rubber."]:

ORIGIN.		DESTINATION.		
COUNTRIES.	1903.	1904.	1905.	
Germany.....	873,259	797,604	Manaos.....177,640	84,950
United States.....	150,779	150,639	Para.....155,725	145,900
France.....	280,371	275,002	Pernambuco.....135,703	90,757
Great Britain.....	767,308	714,016	Bahia.....189,728	90,329
Italy.....	150,872	218,194	Rio de Janeiro.....244,261	102,847
All Other.....	104,237	118,677	Santos.....377,203	485,202
			Porto Alegre.....104,168	97,537
			Other Ports.....190,305	158,100
Total.....	2,374,823	2,288,702	Total.....	2,374,823 2,288,702

EQUIVALENT with exchange at 12 pence to 1:

	1903.	1904.
United States gold.....	\$577,853.81	\$543,906.41
Sterling.....	118,741.38	114,438.28

MERIDEN Rubber Corporation, of which Herbert J. Foster is manager, in Vera Cruz, reports to its shareholders that two men have been at work tapping, producing from 6 to 9 pounds of dry creamed rubber per day.

FIFTY YEARS IN THE RUBBER TRADE.

ON March 20 Mr. Theodore E. Studley, secretary and treasurer of the Vulcanized Rubber Co. (New York), received the congratulations of many friends on his seventy-fifth birthday, and was tendered a dinner at the Arkwright Club, in New York. The month also embraced the fiftieth anniversary of his connection with the India-rubber trade. The issue of this Journal for March 10, 1896 (page 178), contained a reference to Mr. Studley's fortieth anniversary as a

rubber man, but that was ten years ago, and the record may well be repeated with some additions.

Mr. Studley came to New York in 1856 to accept a position as salesman with the New Brunswick Rubber Co., which, in addition to manufacturing footwear dealt in a general line of rubber goods, at No. 100 Liberty street,



their selling department being in charge of Henry G. Norton. The immediate reason for Mr. Studley's coming was that his former employer in a Worcester store, Olney Fenner Thompson, had gone out of business for himself and become a salesman for the New Brunswick company, and it was through him that Mr. Studley gained an introduction to the house. Owing to the financial stringency of the following year the New Brunswick company decided to give up its general business and confine itself to manufacturing. The general business was taken over by Mr. Norton. In 1858 Mr. Studley became a partner in the house, the style becoming H. G. Norton & Co., and in time this became the most important distributing house in the country for rubber goods. For instance, this house at one time were sole distributors of the products of the New York Rubber Co., and a large percentage of the output of the India Rubber Comb Co., the Novelty Rubber Co., the Goodyear Glove company, and several other factories. When the National Rubber Co. (now the National India Rubber Co.) was formed, Norton & Co. became the general selling agents.

The old rubber shoe manufacturing firm of Brown, Bourn & Chaffee, of Providence, were interested in the National company, and later Mr. Augustus O. Bourn (in time governor of Rhode Island, and still engaged in the rubber industry) became a partner in H. G. Norton & Co. Mr. Henry C. Norton, now of the Pacific Coast Rubber Co. (San Francisco), was a nephew of Henry G., and began his business career in his uncle's house in New York.

About 1873 Mr. Norton retired, on account of declining health, and the general business of the firm was sold to the Rubber Clothing Co., which took on the name Goodyear Rubber Co., and which has since continued to be an important factor in the trade. The druggists' sundries department

of the Norton business was continued by Mr. Studley, with a partner, until 1877, when Mr. Studley accepted a proposition from the Goodyear Rubber Co. that he take charge of their New York downtown branch, a connection which lasted for twenty years. That branch being discontinued then, Mr. Studley became associated with the business which is now incorporated as the Vulcanized Rubber Co.

Mr. Studley for a number of years has been in the habit of lunching on alternate days at the Hardware Club and at the Arkwright Club, at each of which he is a member of a coterie of friends, who sit regularly at a "round table." The members of these two coteries are personally acquainted, and this year united in tendering a dinner to Mr. Studley at the Arkwright Club, at which 30 persons were present. The affair was wholly informal, but all present made speeches congratulating Mr. Studley and testifying to the esteem in which he is held by all who know him. Nearly a hundred letters and telegrams were received, the spirit of which is indicated by the one which follows:

DEAR MR. STUDLEY: I regret exceedingly that I was not in the city on your seventy-fifth birthday. I feel that you are seventy-five years young instead of seventy-five years old. Allow me to emphasize my good will and admiration.

I want to have the pleasure of handing you my felicitations on your one hundredth birthday.

Sincerely your friend,

The surprise of the occasion was the presentation to Mr. Studley of a "black jack" set, of tray, pitcher, and half dozen goblets of silver, mounted with leather, and made by the Gorham Manufacturing Co.

Mr. Studley said to an INDIA RUBBER WORLD representative that he was unable to recall any member of the rubber trade at the time he entered it—at least in New York—who still survives, except Mr. Frederick M. Shepard, who had come to New York in 1853 to become connected with the Union India Rubber Co., and is still at the head of the Good year Rubber Co., which succeeded to their business. Mr. Studley is to day in prime health, in constant attendance upon business, and bears but few evidences of having survived so many of the early leaders of the trade. It may be noted that an influential director of the New Brunswick Rubber Co. at the time Mr. Studley entered its employ, was Mr. John Acken. It was largely upon his insistence that the company, following the panic of 1857, decided to give up its general rubber line. Mr. Acken, by the way, was the father of the late William H. Acken, long president of the New York Rubber Co., an obituary notice of whom appeared in the issue of this Journal February 1, 1906 (page 163).

Mr. Studley, by the way, claims to be the only man in the trade now who handled the "pure Pará" rubber overshoes, which were at one time the only "rubbers" in the market. When a boy under twelve, in order to get a little pocket money, which he says he really needed, he used to spend Saturday afternoons in a Worcester store, trimming, cleaning, lasting and varnishing the dealer's stock of shoes of this type. Hence he dates his first connection with the rubber trade back to 1842.

ITALY.—The establishment Manifatture Martiny, at Turin, is now making automobile tires, in addition to its standard lines of surgical instruments, surgical India-rubber goods, and waterproofs.

NOTES ON THE "CASTILLOA" RUBBER TREE.

THE roots of young plants of *Castilloa elastica* (the Central American rubber tree) are well developed and branch a good deal. They are very thickly clothed with root hairs at the tips. These hairs are very fine and fragile and in transplanting young seedlings great care should be taken not to injure them. I believe that the condition of the roots of a tree makes more difference with the amount of rubber it will give than the leaves. A tree with small yield is generally healthy in the leaves, but has some defect in the roots. Transplants are likely to have defective tap roots and on this account blow over.

There are two distinct types of branches on the *Castilloa* tree—temporary and permanent. All the branches for the first three or four years are temporary. They grow alternately on different sides and almost at right angles to the trunk. After some time the temporary branch drops, when beside the scar which is left will be found a small bud. This bud is either to the right or left of the scar, but never above or below it. Whenever one such bud on a tree grows to the right all the other buds do the same, and *vice versa*. I have never found a tree with buds on both sides. Such buds are the beginning of permanent branches. Only a small number grow into branches, but any of them can be forced by cutting through the bark to the wood, above the bud, and thus severing the sieve tubes connecting the leaves and roots. These permanent branches project upward at an angle of 45° or less. Forced branches do not grow as fast as natural ones. The permanent branch bears temporary branches of its own, and later may bear other permanent branches.

This question of branching may prove important. Some planters claim that trees that put out permanent branches early grow faster and yield better than later branching trees. Others claim that branching is not good for the trees. I believe that branched trees grow somewhat faster because they get a larger leaf surface, but I do not think that this leaf surface affects the amount of latex. Trees planted far apart branch more freely and earlier than those which are close together. There also seem to be more branches on trees grown in the sun than in the shade. It has been suggested that it would be well to grow branches on the trees—by the forced method above described—in such manner that the trees could be ascended by tappers without a ladder. The fact that some temporary limbs turn permanent might be investigated, and perhaps a way could be found to make them turn permanent at will, if desirable.

The *Castilloa* is a fast growing tree. It appears to grow faster between the ages of two and four. The leaf surface of the tree, and consequently the amount of light it gets, has a great deal to do with its growth. Shade grown trees are not nearly so large at the same age as those grown in the sun. Some planters believe that trees grown in at least partial shade yield more latex, but if this is so, I do not believe that they yield enough more to pay for the loss in growth, for under any ordinary conditions the trees yield in proportion to their size. Monthly measurement of a large number of *Castilloa* trees shows that they grow on an average of about $\frac{1}{4}$ inch per month in circumference. This varies, however, the trees sometimes growing not at all for a month, and growing $\frac{1}{2}$ inch or more the next month. An experiment in the

affect of tapping on growth did not show that it made any difference.

The proper distance in planting depends a good deal on how soon the plantation is to be tapped. Trees planted to 10 feet begin to crowd each other at about six years. If the plantation is to be tapped at this age, or earlier, this is a good distance for planting. When the trees get older, the poorer and weaker ones can be bled out. The experiment of planting four trees in a hole shows that it is possible for two, three, or even all four to grow well and apparently not to hinder each other. If these trees continue as they have begun, it seems to me that the way to grow the most good trees on a given piece of land would be to stake the land at a distance of 15 or 20 feet, and to plant a circle of 8 or 10 trees about each stake. Any trees grown in this way which did not keep up to the others should be cut down, and by the time they are ready to tap there should be three or four good trees in each group. This method would avoid one trouble which has shown itself where one tree was planted to a hole, and that is that when the time for tapping came many of the trees were poor and stunted and not worth anything. This irregularity of growth loses much time and can be avoided where only the best trees are allowed to grow.

Whatever the method of tapping employed for *Castilloa*, the healing of the cut requires to be considered. The general idea has been that the cut must not be made too deep, and this is true to a certain extent. But it may also be made too shallow. Between the bark and the wood is the growing part of the tree, a tissue called cambium. This part alone has the powers of forming new bark and new wood. If a cut is made which does not go into the cambium, the cut will not heal over with new material. Of course, it will dry up and turn black, and in this way protect the tissue under it, but the piece of bark taken out is gone for good. On the other hand, a cut made just to the cambium will heal quickly.

The Pará rubber tree (*Hevea*) shows some important differences in latex from the *Castilloa*. Of course all that I have noted on this tree is done here in Nicaragua and it may behave differently in Brazil or Ceylon. The first noticeable thing in cutting the Pará tree is the small yield. When a *Castilloa* is tapped the cut is immediately filled with latex, which runs in a small stream from the lower end. The *Hevea* when first cut shows no latex. In a few seconds it begins to appear in drops on the cut surface and after 3 to 5 minutes begins to drop from the end of the cut. The small yield at the first tapping seems to be balanced by the fact that more can be got by multiple tapping. In Ceylon, according to report, the yield increases each day, but here I have noticed no increased yield. I tapped one tree nine days in succession, and though it yielded every day (a thing which *Castilloa* would not do) the yield decreased instead of increasing. The *Hevea* tree will not do here because there is too much labor involved in multiple tapping. I think the trees here, if tapped rightly, would yield as much as those in Ceylon, but as labor costs so much more, it would not pay. I am confident from comparing yields printed in THE INDIA RUBBER WORLD that *Castilloa* will yield as much with four

tapping operations a year as *Hevea* will with ten or twenty when the trees are the same age.

A FORESTER.

Buenahuels, Nicaragua, January, 1906.

RUBBER YIELD IN KALUTARA.

THE last annual report of the planters' association of Kalutara district, Ceylon, shows the following increase in the acreage of Pará rubber under cultivation at the end of two years :

	1904	1905
Rubber alone.....acre	3,128	6,038
Rubber planted in tea.....	6,759	7,256
Total.....	9,997	13,294

It is likely that this year a considerably larger acreage of new land will be planted, but it is not thought that very much more tea will be planted up. During the year 101,978 pounds of rubber were gathered, from 88,667 trees, or an average of 1.15 pounds per tree. It is estimated that 43 per cent. of the trees were tapped for the first time.

CEYLON AND THE MALAY STATES.

MR. R. W. HARRISON for many years interested in the progress of rubber planting in Ceylon, his headquarters being in Culloden, has gone to the Federated Malay States and will make his headquarters at Klang, Selangor, where he will have charge of "Highlands," "Lowlands," and other estates in which Mr. W. W. Bailey is interested.

=Dr. A. H. Suggett, of the Rio Michol Rubber Plantation Co. (San Francisco, California), writes to *The Times of Ceylon* that he expects to visit the Far East some time this year to study rubber culture as developed there. He writes: "We will begin early in 1906 to tap our cultivated trees [in Mexico] and my mission in Ceylon and the Federated Malay States is to learn all that I can about the practical part of rubber culture. We have only the Indian or Mexican, methods to follow, which are very wasteful and must be improved upon."

=Much interest is felt in the Far East in the rubber exhibition which it has been decided to hold at the Ceylon botanic gardens, at Peradeniya, on September 13-15 next.

=The annual report of the Ceylon Planters' Association for 1904, in dealing with the rubber planting situation, said that "a safe estimate for 1905," as to exports of rubber produced, "would be some 120,000 pounds." The actual figures proved to be 168,547 pounds. It is interesting to see a promise so well justified by performance.

=The Ceylon Planters' Association referred to a committee the question of asking the government to place an export duty upon rubber seeds, but the proposal not appearing to meet the unanimous approval of those interested, no further action will be taken. *The Times of Ceylon*, however, hopes that the information gathered by the committee will be published.

CONSOLIDATED MALAY RUBBER ESTATES, LIMITED.

REGISTERED in London October 7, 1905; capital, £75,000 = \$364,987.50], to acquire the "Leigh," "Atherton," and, "Ainsdale," estates, in Negri Sembilan, Federated Malay States owned by H. and C. E. Tunnicliffe and F. M. Porcher, and comprising about 4300 acres, of which 750 are planted in coffee and rubber (*Hevea Brasiliensis*) and *Ficus elastica*. The object is to grow rubber, coffee, and other crops. First directors: G. G. Anderson, J. L. Shand, and W. T. Wilson, all of England.

The estates have been in charge of F. M. Porcher, Port Dickson, Negri Sembilan.

THE RIO MICHOL RUBBER PLANTATION CO.

[Plantation "Rio Michol," in the state of Chapas, Mexico. Office: Merchants' Exchange building, San Francisco, California.]

[See THE INDIA RUBBER WORLD, January 1, 1904—page 127.]

THE report of the shareholders' inspectors shows a favorable rate of development of rubber on this plantation during the year, and also on the 550 acres acquired early in 1904 from the Los Angeles Rubber Plantation Co., now no longer active. Experiments made in tapping young planted trees are reported satisfactory, under methods which, applied to the wild trees on the estate, have produced a superior quality of rubber, shipments of which have been made to San Francisco and New York. The company hope to derive a good profit from ixtle and jocolin fibers.

WISCONSIN RUBBER CO.

[Plantation near El Salto, department of Palenque, state of Chiapas, Mexico. Office: Fairchild block, Madison, Wisconsin.]

[See THE INDIA RUBBER WORLD, March 1, 1905—page 189.]

A RECENTLY issued report states that 1677 acres were cleared and planted to rubber in 1905, in addition to 800 acres planted the year before. The company purpose planting in time a total of 5000 acres. The estate is one of four worked under contract by the Mexican Development and Construction Co., of which John R. Markley is president. Corn is grown as a side crop, with a large yield reported, the proceeds of which is referred to as affording dividends to the investors in the company—6 per cent. for 1904 and 8 per cent. for 1905, on the paid up capital. The company is capitalized at \$1,500,000, in 5000 shares of \$300, of which 1600 are reported to have been sold, on the system of installment payments.

RUBBER MONOPOLY IN NICARAGUA.

THE concession granted by the government of Nicaragua for a monopoly of the exports of crude rubber from the department of Zelaya, districts of Prinzapolea and Rio Grande, mentioned in THE INDIA RUBBER WORLD October 1, 1905 (page 14), is the subject of a report by the United States consul at San Juan del Nore, Mr. Ryder, who writes :

It is reasonable to fix the quantity annually shipped from this district at about 500 000 pounds. This will produce a revenue to the *concessionaire* at the present rate of \$50,000 (gold) per year, or \$500,000 during the existence of the contract. Yet the government exchequer is enriched only to the extent of \$1600 in full for the term of 10 years.

GUAYULE FOUND IN TEXAS.

TEXAS newspapers report the occurrence of the Guayule rubber plant in the lower counties of that state. It might be mentioned that specimens of this plant (*Parthenium argentatum*) found in Texas were the subject of scientific reports before its discovery in Mexico. Mr. Otto Koehler, president of the National Rubber Co. (San Antonio, Texas), formed to operate a Guayule factory at Torreon, Mexico, says that the Texas plants appear less rich in rubber, but that it may be worth while to work them up if transportation facilities are favorable and if plenty of water is obtainable.

ERNST GILG, in *Notisblatt* of the Berlin botanical gardens (December, 1905), describes a new rubber yielding liane, discovered by Albert Simon in northwest Kamerun, which is designated *Clitandre Simoni*.

JUBILEE OF DR. H. TRAUN & SONS.

THE fiftieth anniversary of the firm of Dr. Heinr. Traun & Söhne, formerly the Harburger Gummi-Kamm-Co., of Hamburg, seems to have been a jubilee feast, in the best sense of the word. Everybody who was in any way connected with the firm was present, and every workman seemed to feel that he was a part of the firm, had a vital interest in

its welfare, and felt that he had a right to be there and to share in the merrymaking and in the beauty of the decorations as fully as the directors. The general spirit was that of a big family reunion. Congratulations and messages of good will poured in from all over the world. The works shut down at noon, and at 6.30 Senator Dr. Traun and his sons, Herr Otto



SENATOR DR. HEINR. TRAUN.

and Dr. Friedrich Traun, received the guests with such cordiality that a spirit of general friendliness was immediately communicated to the whole assembly.

Herr Otto Traun, the elder son, and the one who is generally looked upon as the leading spirit of the firm, since his father became a senator, made the opening address, in the name of the Emperor and the free city of Hamburg. Later on Senator Dr. Heinrich Traun spoke, telling how his father and his associates of the Harburger-Gummi-Kamm Co. had organized the company now owned by Dr. Traun and his sons. Then he acknowledged the company's great indebtedness to the pensioners and veteran workmen of the firm, some of whom had given it their best efforts throughout its whole existence. He also thanked the Hamburg senate and the Prussian government for their fostering care and protection.

The regular responses were made by the mayors of Hamburg, Harburg, the sponsor for the workmen and others, and then all united in a tribute to the aged Seniorchef Herr Senator Dr. Heinrich Traun. In connection with the jubilee the firm advertised:

On the occasion of the semi-centennial of our company's existence, we have received so many expressions of good will from every side, that we have found it impossible to answer them all singly. We must therefore take this method of warmly thanking all those who have so kindly expressed an interest in the welfare of our company.

The first hard rubber factory in Germany was established in Harburg in 1856, as the Harburger Gummi-Kamm-Compagnie (Harburg Rubber Comb Co.), in connection with the long established business of H. C. Meyer, Jr., whalebone manufacturers of Hamburg. This firm had relations with

Meyer & Poppenhusen, who had already established, to exploit the patent of Nelson Goodyear, the hard rubber factory at College Point, New York, which is now operated by the American Hard Rubber Co. In 1863 Dr. Heinrich Traun, whose father was a son in law of the original Meyer, entered the business at Harburg and subsequently became sole proprietor. In August, 1902, Dr. Traun admitted to partnership his two sons, when the style of the business was changed to Dr. Heinr. Traun & Söhne, vormal's Harburger Gummi-Kamm-Co. The business has been referred to frequently in THE INDIA RUBBER WORLD, in the pages of which its history is pretty fully recorded.

ANOTHER GUAYULE COMPANY.

THE International Guayule Rubber Co., incorporated last September under New Jersey laws to operate in Mexico, report having acquired 280,000 acres of land in the alkali desert about 120 miles north of San Luis Potosi, at a cost of \$210,000 (silver) and that they will put \$90,000 more into their factory. They will operate a process under their own patent granted in Mexico, by which the gum is extracted wholly by rubbing action in water. Their practical man, who has studied Guayule, reports that shrubs bearing male blossoms give from 20 to 25 per cent of gum, while shrubs bearing female blossoms give from 8 to 12 per cent. They estimate that they have from 25,000 to 45,000 tons of raw material on their lands. Their special machine, by the way, they believe is capable of extracting 3000 tons a year. The officers of the company are J. A. Riley, president; Thomas A. Rider, vice president; and B. St. John Hoyt, secretary and treasurer. The first named are wealthy coal operators in Shenandoah, Pennsylvania, where the real headquarters are at present. They have a temporary office, however, at No. 100 Broadway, New York, with their counsel, W. B. Brice.

The above figures regarding the yield from Guayule appear excessive and do not coincide at all with those received from other sources. From many tons extracted under the most rigid supervision of men desirous of knowing the exact truth, the maximum yield of rubber reported hitherto has been 12 per cent., and this refined, gave 8 per cent of rubber. With regard to "male" and "female" shrubs, there is a shrub called by the natives the female Guayule and also known locally as "mariola." This has been said to contain 6 per cent of rubber, but those who have looked into the matter carefully have so far been unable to extract any gum at all from it.

STILL HUNTING RUBBER IN ARGENTINA.

THE minister of agriculture of Argentina, says the *South American Journal*, clings to the hope that rubber trees are to be found in the Chaco, on the frontier of the province of Salta, where an explorer discovered a few trees which yielded gum. This, however, when analyzed, did not prove to be a marketable commodity, and a commissioner sent by the minister to make further explorations failed to find the real rubber tree. However, the minister, in nowise discouraged, has sent another official naturalist to Salta to make further explorations, but the latter expressed the opinion before starting that his chase was hopeless. [See THE INDIA RUBBER WORLD, August 1, 1905, page 306.]

COLORADO RUBBER OUTDONE.

WE have no pleasure in giving space to any information that may have an unfavorable bearing upon the flourishing rubber industry of Colorado, so widely exploited in the press of that state. But it is the province of a trade paper to reflect as fully as possible the development of its special field, without fear or favor. Hence, if the glories of that Colorado sheep made famous by discovering a new source of rubber should appear dimmed in comparison with the exploits of a transatlantic *rubber yielding* goat, the editor may feel regret, but facts are facts—at least until disproved. The story of the goat which follows we are indebted for to a leading New York newspaper, whose proprietor is the American ambassador to the Court of St. James's, and it runs:

TO THE EDITOR OF THE TRIBUNE: Referring to the extremely interesting scientific articles in your paper the last few days about "hens laying eggs with handles," "hens producing cooked ham and eggs," the "dog on wheels" and "the cat with wings" leads us once more to encroach on your valuable space by referring to the press dispatches from Washington regarding a ram just imported which feeding on a certain weed grown in Colorado, formed in its stomach a huge indigestible ball, which on examination turned out to be a new chemical substance analogous to the best Para rubber.

The department of agriculture, having their attention called to the matter, experimenting with the stuff, produced rubber shoes, toys, etc., and efforts will be made to stimulate this new industry among farmers; but, strange and singular as this discovery is, it does not compare with rubber produced direct from the mountain goat in the Austrian Tyrol, near Innsbruck, where, as is well known, is the largest rubber plant in the world known as the Royal Caoutchouc Factory, near which is a striking group of bald and fissured dolomites, where between the Rumerjoch and Seegraben-pitzen, grows in great profusion what is known locally as goatswort, the botanical name of which is *Dolichos-Asclepius purpureaceus*, of the genus *Polygala*, which secretes a lactescent fluid much like the sap of the rubber tree, and which, from the most ancient times has been known as the favorite food of the Tyrolean goat.

Tacitus describes how the soldiers of the Roman emperor Vespasian, A. D. 66, discovered that goats' milk when hardened by the heat of the sun becomes elastic like rubber, and blocks of it were sent to Rome and used as springs over the axles of racing chariots (and any one curious in the matter can see one of these ancient chariots in the archaeological department of the Metropolitan Museum of Art this city), but for nearly 2000 years the whole matter seems to have been forgotten until some six months ago Herr von Pumpernickel, president of the Austrian Polytechnic College, had his attention called to it.

He began experimenting with mountain goat's milk in behalf of the rubber factory, and by feeding the animals on pine cones, in conjunction with the goatswort, produced milk impregnated with turpentine, and by solidifying it with heat and feeding it through a Foudrinier machine turned out real rubber sheeting and cloth for garments, and in order to produce vulcanized rubber he forced the goats to drink from a sulphur spring near by, and he was thus enabled to make combs, hairbrushes, syringes, knife handles, etc., by simply running the milk into molds, adding meantime coloring matter required. And this is the reason why the Austrian company furnishes goods so cheaply; and it bids fair to reduce the price of genuine Para rubber to a very few cents a pound.

New-York, March 15, 1906

FITZ NIGEL.

CELESTINO NIETO and Maximo Parajon have petitioned the Mexican government for a concession to establish a factory for rubber caps for beer bottles.

NEW TRADE PUBLICATIONS.

IN their Engineers' Catalogue the NEW YORK BELTING AND PACKING CO., LIMITED, aptly illustrate their record as "pioneers" and "leaders" in the manufacture of rubber packing by contrasting on one page a picture of the immense covered wagons so much used at the time this company was founded, and one of a modern commercial motor wagon. The catalogue is devoted to descriptions of a wide range of packings, adapted to many special purposes, together with gaskets, valves, diaphragms, hose, belting, and so on, very many of which are decidedly modern and illustrate the constant progress of engineering and mechanical development. [3 3/4" x 6". 48 pages.]

THE MANHATTAN RUBBER MANUFACTURING CO. (Passaic, New Jersey), in their new General Catalogue of Mechanical Rubber Goods, not only illustrate and describe a line of staple and special productions, which appears larger and more varied with each succeeding edition, but is rendered more attractive and interesting by means of a number of well executed illustrations showing such goods in use. For instance, their illustrations of large machinery belts in service; fire, suction, pneumatic, and divers hose likewise appearing in attractive pictures; interiors furnished with mats and tiling; a paper mill with rubber rolls, and so on. In many respects this is the best illustrated catalogue which has yet appeared in this field. [5" x 7 1/2". 47 pages.]

THE CANADIAN RUBBER CO. OF MONTREAL, LIMITED, issued under date of March 12 their regular illustrated price list of "Canadian" Rubbers [3 1/2" x 6". 80 pages].—A special illustrated catalogue relates to the "Royal Canadian Footwear" line, which is a new feature. The manufacturers say: "We couldn't improve the wearing quality of our regular brands of rubbers, so we decided to manufacture a special brand carrying highest grade lines, finest finish—and noted above everything else for style. The price will be a little higher than any other rubber on the market." [6" x 9". 24 pages.]

THE GUTTA PERCHA AND RUBBER MANUFACTURING CO. OF TORONTO, LIMITED, issue under date of March 12 their illustrated catalogue of Rubber Footwear, which as usual is complete and well got up. It is interesting to note that the catalogue includes a line of rubber heels, something which is not yet true of any rubber shoe factory in the United States. [3 1/2" x 5 1/2". 72 pages.]

THE MERCHANTS RUBBER CO., LIMITED (Berlin, Ontario), issued their third annual illustrated catalogue and price list of Rubber Boots and Shoes which includes several novelties of interest in addition to a very varied line of staples. [7" x 6 1/4". 36 pages].—The products of this company are handled by retailers direct, and a handsome calendar distributed to the trade by the company is illustrated with the portraits of forty-five rubber shoe retailers throughout the Dominion, under the heading "The Men You Do Business With."

ALSO RECEIVED.

THE B. F. Goodrich Co., Akron, Ohio.—Wheels of Fortune, [A Catalogue of Bicycle Tires.] 16 pages.

Grand Rapids Felt Boot Co., Grand Rapids, Michigan.—Rubber Boots and Shoes, Felt and Knit Boots. 40 pages.

The Electric Cable Co., Bridgeport, Connecticut.—Voltax [a new non-rubber insulation]. 22 pages.

NEW UNITED STATES RUBBER SHARES.

THERE has been an addition of \$5,000,000 to the amount of First Preferred capital stock of the United States Rubber Co. listed on the New York Stock Exchange. The paragraphs which follow are extracted from the formal statement made by the company in applying for the new listing:

Referring to the application of this company, dated October 5, 1905, application hereby is made for the listing of 50,000 additional shares of its First Preferred stock, of the par value of \$5,000,000.

The United States Rubber Co. was organized under the laws of the state of New Jersey, March 30, 1902. The present authorized capital of the company consists of \$40,000,000 of First Preferred stock, \$10,000,000 Second Preferred stock; and \$25,000,000 Common stock. The par value of each of its shares is \$100.

The Meyer Rubber Co., one of the original subsidiary companies of the United States Rubber Co., for some years has served as holding company for the United States Rubber Co. for various securities which from time to time have been held in connection with the business of the United States Rubber Co.

When it was deemed desirable by the United States Rubber Co. to inaugurate a system of profit sharing, a considerable amount of Preferred and Common stock of the United States Rubber Co. was purchased in the market by the Meyer Rubber Co., which in turn gave to employees of the United States Rubber Co. and of its subsidiary companies options on the stock, as fully explained in the annual report of the president at the stockholders' meeting in May, 1904.

In organizing the General Rubber Co., which, as previously reported to your committee, is a company organized for the purpose of buying and dealing in crude rubber principally for the requirements of the United States Rubber Co. and of its subsidiary companies, the Meyer Rubber Co. subscribed for and purchased all of the capital stock of the General Rubber Co., namely \$3,000,000, paying therefor in cash and borrowing the money from the United States Rubber Co. In due course, the Meyer Rubber Co. sold \$1,000,000 of the stock of the General Rubber Co. to the Rubber Goods Manufacturing Co., receiving in payment therefor \$1,000,000 of the Preferred stock of said Rubber Goods Manufacturing Co.

In view of these, and other like transactions, from time to time carried on and to be carried on by said Meyer Rubber Co. in the interest of the United States Rubber Co., it has been felt desirable that the Meyer Rubber Co. should have a capital considerably larger than \$200,000, the amount heretofore existing. Accordingly, on December 8, 1905, that capital stock was increased from \$200,000 to \$5,000,000.

For such additional capital of \$4,800,000 par value, the United States Rubber Co. subscribed and paid for the same by the issue of 48,000 shares of its own First Preferred stock of the par value of \$4,800,000.

As stated above, the Meyer Rubber Co. received from the Rubber Goods Manufacturing Co. 10,000 shares of the Preferred stock of the Rubber Goods Manufacturing Co. of the par value of \$1,000,000, in payment for \$1,000,000 par value of the capital stock of the General Rubber Co. As it was desirable that all of the stock of the Rubber Goods Manufacturing Co. acquired in the interest of the United States Rubber Co. should be held by the United States Rubber Co. itself, the latter company purchased from the Meyer Rubber Co., and now holds in its treasury, such 10,000 shares of the Preferred stock of the Rubber Goods Manufacturing Co., in consideration thereof having issued to the Meyer Rubber Co. 10,000 shares of the First Preferred stock of the United States Rubber Co.

The Meyer Rubber Co. thus holds in its treasury 58,000 shares of the First Preferred capital stock of the United States Rubber

Co. It is desirable that part of this First Preferred stock be sold and be converted into cash for the benefit of the Meyer Rubber Co., which cash thus will be ultimately available for the corporate purposes of the United States Rubber Co.

Therefore out of these 58,000 shares of First Preferred stock of the United States Rubber Co., the Meyer Rubber Co. has sold 50,000 shares at the price of \$110 per share, or for the aggregated sum of \$5,500,000 cash now in the treasury of the Meyer Rubber Co.

Accordingly, the United States Rubber Co. makes application now for the listing of the last mentioned 50,000 shares of First Preferred stock of the United States Rubber Co.

The total issue of capital of the three classes now stands as follows:

	Issued.	Authorized
First preferred.....	\$34,440,800	\$40,000,000
Second preferred.....	8,477,300	10,000,000
Common	25,000,000	25,000,000
Total.....	\$67,918,100	\$75,000,000

THE EDITOR'S BOOK TABLE.

THE HOW AND WHY OF ELECTRICITY. A BOOK OF INFORMATION for non-technical readers. By CHARLES TRIPLER CHILD. Second edition. New York: Electrical Review Publishing Co. 1905. 160 pp. 12mo. Pp. 31. Price \$1.

THE preface to this book says that its purpose is not to tell what electricity is, "for the writer does not know, but to tell something of its properties, of how it is generated, handled, controlled, and set to work, and to explain how familiar electrical apparatus operates." As will be inferred, the work is for the popular reader, rather than for the electrical engineer; but in these days even the average popular reader is brought so frequently into contact with applications of electricity as to be almost obliged to understand something of its control, and this book is infinitely more informing than almost any single technical work that could be named. Charles Tripler Child had a marvelous faculty for comprehending the facts of science, and, when he had learned them, of telling what he knew, in such a way that men, who had not had the blessings of a thorough education, could understand. These men read Mr. Child's books, and thanked him in their hearts for teaching them, yet sparing them the domineering priggishness of the general run of pedagogues. The kindly author of this book died shortly after it was written; but this second edition preserves the simple language of the original, with certain corrections, illustrations, and additions made to bring it up to date.

IN CURRENT PERIODICALS.

EINE Neue Anzapfungsmethode für *Kickxia elastica*. By Dr. Strunk. [Report on a new method of tapping, in Kamerun, and its favorable results.]—*Die Tropenpflanzer*, Berlin. X-3 (March, 1906). Pp. 141-149.

Les Guis Caoutchoutifères de l'Amérique du Sud. [Resume of a study by Professor Warburg on rubber yielding species of mistletoe.] *Journal d'Agriculture Tropicale*, Paris. VI-56 (Feb. 28 1906). Pp. 45-47.

Plantes à Latex d'Afrique ne Donnant pas de Caoutchouc. By Aug. Chevalier. [Latexes which do not afford rubber.] *Journal d'Agriculture Tropicale*, Paris. V-54 (Dec. 31, 1905). Pp. 355-358.

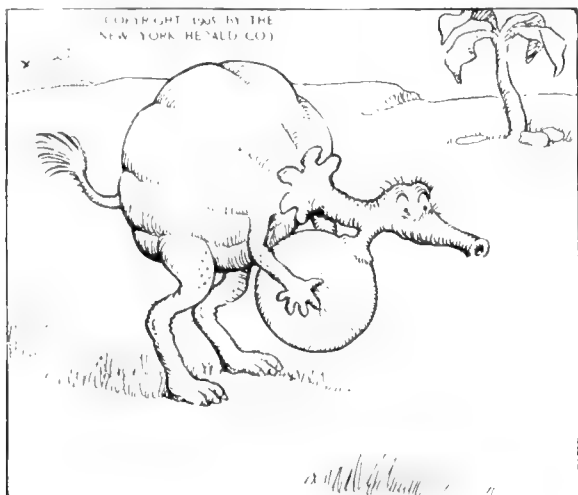
Pará rubber teelt in het schiereiland Malaka. *De Indische Mercur*, Amsterdam, XXVIII-11 (March 14, 1905). P. 153.

Report on the Experimental Tapping of Pará Rubber Trees in the Botanical Gardens, Singapore. *Agricultural Bulletin*, Singapore. IV-11 (Nov. 1905). Pp. 424-443.

THE ORIGINAL ATOMIZER.

SINCE the doctrine of evolution burst upon the world like a thunderclap, causing us all to readjust many ancient theories and preconceived notions, men have recalled the old saw that there is nothing new under the sun, and believe that everything in our high civilization can be explained either through researches in ancient documents and buried cities, or else through some suggestion found in the animal or vegetable kingdoms, adapted or paralleled for the use of man.

Working from this base, the Baltic races have caught hints from all sides, adapting the ideas to their needs. At first they imitate the original form, but gradually slough off unnecessary features, and develop the essential ones. Thus the Vikings built their ships in the shape of the long worm, or sea serpent. The railroad engine is still called the iron



THE TOMATOMIZER.

horse, and tradition and fairy tales are full of allusions to high speed machines made in the shape of horses. The sight of a man on horseback led the Greek to invent the Centaur, which combined the swiftness and strength of the horse with the intelligence and armplay of the man. Most flying machines have imitated the birds more or less closely, and have failed because they imitated the wrong features of the bird instead of the most striking characteristic, which is its power to soar without effort. The modern skyscraper seems to be a mixture of the ideas contained in cliff dwellings, and the giant anthills of the tropics, with the disadvantages of both.

Innumerable other instances will occur to the reader such as "bark" for boat; house, derived from a word meaning hide or skin, and so on. Rubber was long known in France as "nigger-hide," which harks back to the ancient custom of using such skin for various purposes to which rubber is now put, such as waterproofing, which is mentioned by Pliny. A development of one of these suggestions was recently seen in the *New York Herald*; that is, it was recent from the standpoint of the evolutionist. This was a series of pictures illustrating the development of the surgical atomizer, syringe and blub spray from an animal called the Tomatomizer, though the scientific name was not given. It was, in brief, a cross between an animated tomato and an atomizer, and is described as searching desert wastes for

humans, at whom it squirted tomato ketchup. The creature is undoubtedly prehistoric and the druggists sundries' manufacturers that own atomizer patents are not of necessity infringing any ancient protected rights.

A REPORT ON RUBBER TAPPING.

FIRST ANNUAL REPORT ON EXPERIMENTAL TAPPING OF PARA Rubber (*Hevea Brasiliensis*) at the Economic Gardens, Singapore, for the year 1904. By H. N. Ridley, Director of Gardens, and R. Derry, Assistant Superintendent, in Charge of the Experiment. Singapore: Government Printing Office. [Svo. Pp. 20.]

THE legislative council of Singapore in 1904 voted \$1200 to cover the cost of experimental tapping of the *Hevea* rubber trees in the local Economic Gardens. The number of trees tapped was 880, and the yield of dry rubber obtained 884½ pounds, for which \$2440 was realized in London. The prices, by the way, were as high as any paid during 1905 for plantation rubber, from Ceylon or elsewhere. All the rubber was prepared in the form of "biscuits," and coagulated with the aid of calcium chloride. In these experiments account was taken of different methods of tapping, the time of day, tapping different groups of trees at different intervals, and various other points, all with a view to arriving at the best practice, rather than determining the greatest possible yield. All trees were carefully measured, with the purpose of arriving at a rule for the yield to be expected for each inch in girth of a tree, at say 3 feet from the ground. These experiments are to be continued, with a comparison of the records of one year with another, and the net result can hardly fail to prove of much practical value.

APAXTLE.—One of the gums which is having the greatest demand, after rubber and chicle, is that one known by the name of Apaxtle, which is extracted from the *arbol rosario* (rose-colored tree), and which is used for the manufacture of rings, smoking pipes, and similar articles.—*Mexican Herald*.



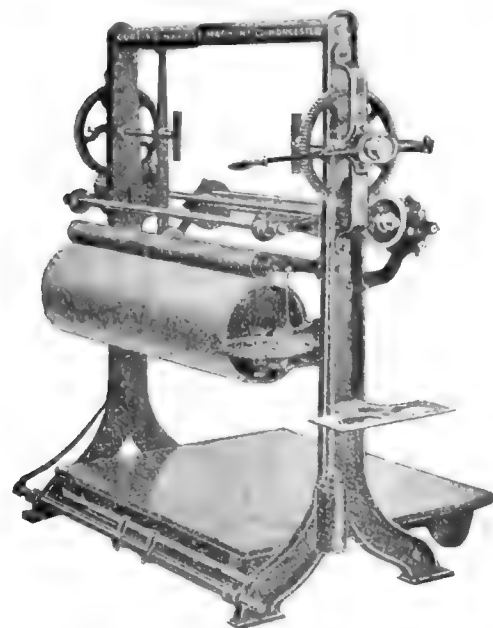
GOLFING ON THE LEGAL LINKS.

RUBBER FACTORY APPLIANCES.

CLOTH WINDER AND MEASURER.

THE machine shown in the cut is designed for winding cotton, silk, or other goods on boards for the market. It is claimed to be one of the most rapid and accurate winding and measuring machines built and is largely used by cotton and gingham mills, bleacheries, printeries, dyeing and

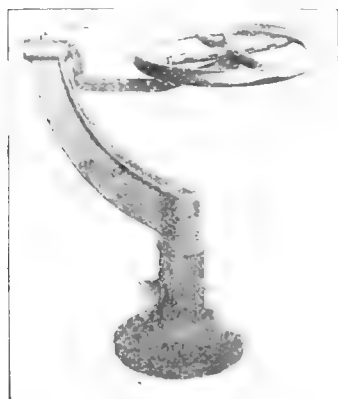
finishing establishments, etc., for almost all classes of goods. It is provided with tension rods by which a ny desired amount of tension may be obtained to wind the goods hard or soft, and there are guide collars to aid in guiding the cloth in straight and even, so as to make a neat roll with



square ends. The machine is readily stopped and started by the foot of the operator on the tread bar at the bottom, and the boards on which the goods are wound are quickly clamped and unclamped in the sockets by a hand lever. The hand lever is held in position by a weight, so that any slight variation in the length of the boards may be taken up. The machine may be made either with or without the measuring attachment, as desired. The measuring roll is one yard in circumference, with nickel plated dial on the end to register up to 60 yards. [Curtis & Marble Machine Co., Worcester, Massachusetts.]

MAKING UP STAND FOR MOTOR TIRES.

THE illustration represents something new in the way of a making up stand for the use of manufacturers of automobile



tires. The stand is about 36 inches high, fitted with an iron base, with a projecting arm which is adjustable. This arm carries a spider with four arms, each arm being fitted with an adjusting screw, so that it will fit the making up forms for any size tire, it taking only a minute to change from one size to another. These stands are being used by several tire manufacturers with success. [John E. Thropp's

Sons Co., Trenton, New Jersey.]

TWO NEW GAGES FOR RUBBER WORK.

So great a proportion of the whole amount of rubber used is run into sheet form before making up, that good measuring gages are always in demand. Certain goods call for a certain thickness of gum, and this is so expensive now that care is necessary in order not to run sheets even a shade too thick. The calender men with the old wire gage are not to be trusted too far, and it is best to have a man with a good one constantly testing the thickness of the sheet. The Hoggson & Pettis Co. are well known as manufacturers of rubber men's supplies, so that calender men who do not already know it will be glad to learn that this company is



making two very convenient kinds of gage, different in capacity and cost. The unit of measure on each is the "line," which is $\frac{1}{40}$ or .0025 of an inch. The lower priced gage, which is triangular shaped, has a capacity of $\frac{1}{4}$ inch, being graduated to $\frac{1}{10}$ of a line, or $\frac{1}{400}$ of an inch. The other gage which works by a ratchet and thumb pressure, is graduated to $\frac{1}{4}$ line, or $\frac{1}{160}$ inch, and has a capacity of $\frac{5}{16}$ inch. The triangular form may also be graduated in other ways, if desired. Both are nickel plated, and beautifully made. [The Hoggson & Pettis Manufacturing Co., New Haven, Connecticut.]

CABLE LAYING IN THE PACIFIC.

THE cable steamer *Silverton* arrived at Manila on March 22, having on board the cable manufactured by the India Rubber, Gutta-Percha, and Telegraph Works, Limited, for the completion of the line of the Commercial Pacific Cable Co. across the Pacific. This line is to connect Manila and Shanghai, and its completion is expected early in this month. The company are laying another cable from Guam to Japan, which will be completed a little later.

The systems which the Commercial Pacific connects in the Far East are the United States government lines in the Philippines, Japanese government lines, Chinese government lines, German Dutch Cable Company, Eastern Extension Telegraph Co., and the Great Northern Telegraph Co.

SOME LOST RUBBER SHOES.—The statistics of the dead letter office [at Washington] are interesting, but particularly so is the fact that about 150 men are kept busy the year round taking care of parcels for which owners cannot be found. A very sizable proportion of these packages have been found to contain rubber footwear; probably about half of them being rubbers which people have forgotten to carry home with them after protracted visits. If the addresses cannot be found, the government returns these, where possible, to the sender, but quite a large amount of the old rubbers are among the packages which are sold at auction, and the proceeds are turned into the treasury.—*Boot and Shoe Recorder*.

THE OBITUARY RECORD.

EUGENE DOHERTY.

EUGENE DOHERTY, who had been engaged in the rubber industry over a half century, died at his home in Brooklyn, New York, on March 14. He was born in Ireland and at an early age was brought by his parents to Boston, Massachusetts, where he found employment in a rubber



works. Later he lived at Newtown, Connecticut, where he was employed in the factory of the New York Belting and Packing Co. He went into business in a small way in Brooklyn in 1865, in the manufacture of rubber for dental uses, under a method of preparation of his own invention. The first location of this business was in Kent ave-

nue, near North Ninth street. The business grew steadily under his personal management and close attention until, in 1884-85, he built at North Eighth and Kent avenue the large factory in which his business was thereafter carried on. Mr. Doherty was engaged throughout his business career mainly in the manufacture of dental rubbers, and the business will be continued under his name by his widow, his sole survivor and the inheritor of the estate, which includes the home near the factory, which he had occupied for more than a quarter century.

Mr. Doherty was unassuming in character and affable. His charities were numerous though little advertised. He was a liberal contributor to the Roman Catholic church, belonging to the parish of Saint Vincent de Paul, and one of the fine memorial windows of the parish church was his gift. He was a member of the society of St. Vincent de Paul, the Roman Catholic Orphan Asylum Society, and various social organizations. He was a director of the North Side Bank of Brooklyn. In politics he was a Democrat, but was never a candidate for office, though at one time he was talked of for the office of mayor of Brooklyn.

Funeral services were held at the late home of Mr. Doherty on Saturday morning, March 17, followed by a solemn requiem mass at church, celebrated by the Rev. Father Carroll, and the interment was in Calvary cemetery.

* * *

THE rubber town of Bristol was saddened by the sudden death, on Sunday morning, March 4, of NATHAN WARREN McCARTY, son of Terrence McCarty. He was supposed to be in his usual health and was preparing for church when he became unconscious and soon expired, the trouble being an unsuspected abscess in the head. He was born in Bristol August 16, 1883, attended the public schools, and later was gradu-

ated from a private school in that town. After leaving school he assisted his father in the Byfield Rubber Co. When the Consumers' Rubber Co. was organized, with his father as president, he became secretary and general manager, a position which he filled to the day of his death. He had many friends and had shown much business ability.

A ST. LOUIS FAIR SOUVENIR.

THE medal, here illustrated, was given to the Editor of THE INDIA RUBBER WORLD in recognition of his services to the Louisiana Purchase Exposition, and in behalf of industrial progress generally. On the medal the dolphins, pictured on one side, represent the two seas, with the American eagle spreading his wings over all. Of the two figures on the other side, the taller represents Columbia, while the



other is the young Louisiana, throwing off her French raiment to receive the cloak of statehood. The design is by Adolph A. Weinman and was approved by the eminent artists J. Q. A. Ward, Daniel C. French, and Augustus St. Gaudens.

The Editor of THE INDIA RUBBER WORLD was secretary and acting chairman of July 11, which was made up of ex-



perts from all of the great manufacturing countries of the world, and had for its work the examination of some 400 exhibits under three groups, namely: Articles for Traveling and Camping; India-Rubber and Gutta-percha Industries; Toys; Leather, Boots and Shoes, Furs and Skins, Fur Clothing, etc.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

I WAS talking the other day to a planter who has had a good deal of tropical experience and he was very eloquent on the potentialities of rubber culture. In his opinion the state of affairs as far as Brazil is concerned is analogous to what history has to tell us with regard to cinchona. Time was when the wild Peruvian product was the main source of supply; now it all comes from cultivated sources in other

CULTIVATED
RUBBER.

lands and the price has dropped very considerably. He predicts that the cost of collecting Pará rubber in South America is bound to continually increase, as the workable forests become more remote from the trading centers, especially as the available acclimatised labor show no signs of any inordinate increase. The present high price allows of a sufficient margin of profit to allow of equipping the collecting bands, but should the price show any considerable fall and the cost of collecting remain stationary, the necessary consequence will be a cessation of the industry. Of course my informant does not expect this to happen in a year or two, but he is emphatic that it will come about when the various plantation companies begin to harvest on a large scale. Analogy is always a risky form of argument, but there is certainly a good deal of similitude between the cases of cinchona and rubber. Naturally the shareholders in the rubber companies do not wish overproduction to bring down the price too much, but in the majority of prospectuses it is noticeable that stress is laid on the cost of production being less than 1s. 6d. per pound, a figure which will allow of profitable working even should the present price of fine rubber fall 50 per cent.—that is of course presuming that nothing catastrophic happens to the plantation.

WITH regard to the Liberian Rubber Corporation, which has attracted a good deal of attention owing to the well known public men on its directorate, it is noticeable that the optimistic speech made by Sir Harry Johnston at the recent statutory meeting of the shareholders made little impression on the market, the shares being at a discount the day after the meeting. Probably the rubber investing public had heard so much about the price of rubber being 5s. 6d. per pound in connection with the various Ceylon and Straits flotations that they did not grasp the fact that the Liberian rubber fetches less than half this price in the market. Questions on the point were asked at the meeting and 2s. 8½d. was given by Sir Harry as the average price for their rubber during 1905. The important matter for consideration is how low can this price be allowed to fall so as still to leave the company a sufficient margin of profit to pay interest on its large capital. At the present price or thereabouts things will no doubt go on all right, but it seems that the future is very uncertain. If the Pará rubber plantations tend to bring down the price of fine rubber, native Africans will fall in sympathy. Certainly the Liberian Corporation do not propose to depend entirely on their rubber forests, as they have in view the planting of Pará trees and also the development of the latent mineral wealth of the country, about which hardly anything is known. Still the concern does not seem one that an impe-

NORTHWESTERN
RUBBER CO.
LIMITED.

curious investor should rush into all things considered. I might mention that the estimated profit on one ton of Liberian rubber was given in the prospectus by Mr. I. F. Braham at £126, so that a fall in price of 1s. 2d. would have to be experienced before loss occurred—supposing of course that the estimate is at all exact.==To say a word about one other company scheme which was offered to the public recently, the Putupaula (Ceylon) Rubber Estates, Limited, the appeal to the public did not meet with a sufficient response and it is to be brought out again in an altered form.

To one like myself, who knows of the large American rubber reclaiming works only by repute, it is a revelation to see the scale on which things are conducted at the rubber reclaiming works at Litherland, near Liverpool. In addition to being on the bank of the Liverpool and Leeds canal, there is railway communication right into the works, an advantage which I think I am correct in saying is not possessed by any other British rubber works. Some of the machinery is of American and some of British make. Steam for the engines and the devulcanizing pans is obtained from four Stirling watertube boilers, which it is easy to understand prove more economical working than the Lancashire type. The reclaiming process used is what is known as the alkali method as patented by Mr. Arthur H. Marks. Briefly described, the process consists of heating the finely ground rubber for a certain length of time with a solution of caustic soda under a high steam pressure, whereby the bulk of the sulphur goes into solution. The devulcanized rubber is then sheeted without the addition of oil, which is a regular constituent of the reclaimed rubber made by the older processes. No doubt the absence of oil goes a long way to explain the great tensile strength of the best grades of the Northwestern Co.'s goods, after making all allowance for the use of good quality scrap. It will be quite superfluous to mention that Mr. Ernest E. Buckleton is the general manager, as his personality is so well known to rubber manufacturers both in Europe and America. The thing which most struck me when I saw the magnitude of the works and heard that they were kept going night and day, and often on seven days in the week, was how can they manage to get enough raw material. In answer to a query I was told that on first starting, considerable difficulty had been experienced, owing to the fact that the organized methods of collecting and classifying scrap rubber so long established in America were practically non-existent in England. The factory soon got to work and created a demand for its products, but it was often a case, to use a gold mining simile, of the mill getting ahead of the mine. This somewhat serious difficulty has now been got over, a large amount of business both in scrap and reclaimed rubber being done with the Continent. In fact, though established at Liverpool the works must be looked upon as a European branch of American enterprise, the present site no doubt having been selected for good reasons. Seeing how strenuously those who are responsible for drawing up specifications for rubber goods insist on the entire absence of reclaimed rubber, the man in the street would think that such

material was injurious in itself, or at any rate no better than oil substitute—that is if he has ever heard of the latter. But really when one hears of goods such as cycle tires being made wholly from reclaimed rubber—and what is more, showing great lasting power—it suggests itself as highly undesirable that in the light of recent technical progress fresh stock should be taken of the situation. Perhaps if the merits of modern reclaimed rubber were carefully inquired into, an intelligent jury would return a verdict to the effect that the stigma supposed in certain high quarters to attach to this product was the outcome of fancy or prejudice and that it was not based on any solid foundation of fact. Of course I am not suggesting for one moment that reclaimed rubber can be equal to new rubber, but judging by American practice and its results there seems little reason why the British rubber manufacturer should continue to maintain the attitude of reserve which has so long characterized him with regard to reclaimed rubber.

It may be mentioned that the arrangement which existed for some time between the Seddon Tyre Co. and Messrs.

THE SEDDON TYRE CO.

David Moseley & Sons, Limited, whereby the tires were manufactured solely by the latter firm, has been terminated, Messrs. Moseley having now nothing to do with the manufacture of the tire. The Seddon company now have their own works in Ellesmere street, Hulme, Manchester. Their red rubber single tube motor tire is pretty well known and they are now pushing their non-skidding tread, which, though of the usual leather and metal stud type, is stated to be attached to the rubber tire by an entirely new process in which vulcanization plays no part. Patents have been applied for.

THE *India-Rubber Journal* recently made some strictures upon the low quality rubber that has come to be used in

RUBBER HEELS.

these goods, owing presumably to the stress of competition. The facts of course are indisputable when one can see them in shop windows marked at 3 pence per pair. It is a question, however, whether the actual manufacturer is so much to blame. A great bulk of these heels are made under registered names for middlemen who put them on the market and it is a safe surmise that the middlemen strike a hard bargain with the manufacturer as to the cost. Some manufacturers no doubt will refuse to supply rubbish at rubbish prices, but we have it clearly indicated in the annals of the rise and fall of other rubber goods that there will always be some who will work to the customers' ideas of price. Decline in quality has its inevitable consequent in a decline in popularity, and the note of warning issued by our contemporary is by no means unjustifiable. Of course it must not be overlooked that while many people pay £2 for a pair of boots, a larger number don't give more than a quarter of this sum, and so perhaps it is only in the fitness of things that rubber heels should be on sale at widely different prices. I don't say that the cases are parallel because I dare not suggest that cheap boots are made of brown paper, in view of the result of a recent libel action. It is safe, however, to say that there is such a thing as low-class leather and the purchasers of it may possibly be satisfied with rubber heels of corresponding quality. To conclude, as these heels are largely sold in the West End as well as the East, to use a London expression, it behooves those who do the better class trade to see that for the sake of snatching a small extra profit they do not follow the lead of the small

dealer. Since writing the above I have had an opportunity of discussing this matter with an authority on the business done by the Wood-Milne Co., who are the largest producers of these goods, and I was told that there is no decrease in the demand for this firm's special quality pad.

POPULAR attention has been directed of late years so much to the development of the motor tire that the solid cab tire has been somewhat put into the shade. Still one hears on all sides that the business has increased. Perhaps the greatest novelty to the eye at all events is the white cab tire recently put on the market by Messrs. Moseley & Sons. Its appearance at once distinguishes it from all competitive tires, though whether it has any special merits I am not in a position to say. On the firm's stand at the recent Manchester motor show it looked spruce enough, but how long will its color withstand the black mud of our English manufacturing towns?—The whilom Wedge Tyre Co. of Soho Works, Ancoats, Manchester, is now replaced by a company to be known as the Dook-Swain Tyre Co. The latter name will be familiar to many in the trade in connection with the Swain Tyre Co., of Harwich. I understand that in addition to taking over the business of the late Wedge Tyre Co. the new company are enlarging the works and will deal in tires of all kinds.—I may mention as of possible interest to some one over the water that as regards compounding, tensile strength, and general suitability for its required uses the Kelly solid tire has been referred to in my presence as being ideal, the excellence of which it is the object of competitors to attain to.

ASBESTOS, as is well known, enters largely into engine packings, both alone and in conjunction with rubber. In hardly any case do the rubber manufacturers prepare their own asbestos from the raw material, but buy it in the woven

ASBESTOS WEAVING IN ENGLAND.

state from firms who make its preparation a specialty. The amount of business passing between the asbestos manufacture and the rubber works in Great Britain appears to find no reflection in America, where I understand this branch of trade has been neglected by the rubber companies. The largest firm of asbestos manufacturers in Great Britain is that of Messrs. Turner Brothers, Limited, of Spotland Mills, Rochdale. They buy the raw material direct from the Canadian mines, and put it through the various processes incidental to spinning and weaving. They are large manufacturers of finished asbestos goods, such as proofed sheeting, cloth packing, etc., besides supplying yarn and cloth to the numerous packing manufacturers and rubber companies. They have long held an important position as contractors for asbestos goods to the Admiralty and other government departments. Rubber machinery has recently been installed in their works and this in enabling them to do their own proofing puts them in a unique position for turning out goods consisting of rubber and asbestos, such as sheeting, packing, tape, rings, and the like. I am not an expert on the asbestos manufacture, but have every reason to suppose that the claim of Messrs. Turner of having the most up to date asbestos factory in existence by reason of having re-equipped the works with the latest labor saving machinery, is not at all an exaggeration. The firm have recently extended their premises with the view of making Balata driving belting, which branch they anticipate will shortly become one of the most important of their business.

THE RUBBER TRADE IN EUROPE.

HASKELL GOLF BALL CASE IN ENGLAND.

IN a decision of the British Court of Appeal on March 7, concurred in by the full bench then sitting, the adverse finding of the lower court is sustained in the case of the Haskell Golf Ball Co. v. Hutchinson & Main for alleged infringement on the plaintiff's patent covering the manufacture of golf balls. The court bases its finding upon the testimony of a Captain Douglas Stewart, who made and sold golf balls almost identical with those of the Haskell company as early as 1871 or 1872, and that of one Mr. Fernie who offered similar evidence. The trial in the first instance was before Mr. Justice Buckley, in the High Court of Justice, chancery division, in London, beginning May 29, 1905.

DUNLOP REORGANIZATION.

AN extraordinary general meeting of the Dunlop Pneumatic Tyre Co., Limited, was called for March 14 for the purpose of considering resolutions providing for the reduction of the capital of the company, by scaling down the par value of the ordinary and deferred shares, to the end that the capital shall more nearly represent the present value of the assets. At present "good will" figures largely in the list of assets, but since the expiration of the patents upon which the company was formed originally and the conversion of the company into a manufacturing enterprise, it is agreed by all interested that a reorganization is desirable, though it has not been easy to formulate a scheme on which all classes of shareholders could agree. The readjustment of classes of capital suggested by the directors is indicated by the table:

	Present.	Proposed.
Preference.....	£ 1,000,000	£ 1,000,000
Ordinary.....	1,000,000	625,000
Deferred.....	2,000,000	500,000
Total.....	£ 4,000,000	£ 2,125,000

The new plan was adopted by a decisive vote.

RUBBER FOOTWEAR TRADE IN GERMANY.

THE rubber shoe trade has been quite a sufferer this winter [says *Gummi-Zeitung*, February 23]. Very few points report a lively business in this line. The reason is found in the lack of snow, and in the generally mild winter. Though rubbers are more generally worn in rainy weather than formerly, still it is snowy weather that calls for their greatest use. Thus it happens that all dealers are overstocked. In other countries we hear the same complaints from rubber shoe men. In the United States, especially, the minimum sale has been reached, owing to the unusually mild winter. - - - Owing to the weak trade, and the higher tariffs in some other countries, many consignments of rubber shoes will be sent into Germany from abroad.

GREAT BRITAIN.

ST. HELENS Cable and Rubber Co., Limited, was registered February 28, with £10,000 [= \$48,665] capital, to acquire the business of the St. Helens Cable Co., Limited; to adopt agreements with Callender's Cable and Construction Co., British Insulated and Helsby Cables, and Siemens Brothers & Co.; and to carry on the business of cable makers, rubber manufacturers, and a general electrical business. The first directors are T. O. Callender, J. Taylor, and G. von Chauvin, respectively directors in the three cable companies named above. Registered offices, Warrington, England.

=W. T. Henley's Telegraph Works Co., Limited, at their annual meeting (London, March 1) reported a net trading profit of last year £40,187 [- \$195,570] against £38,263 for 1904, and £36,742 in the year preceding. The dividend on the ordinary shares remains at 15 per cent. To meet the growing requirements of the business £300,000 new debenture stock has been created; of this £150,000 has been issued and the former debenture stock has been redeemed. The construction of the new Gravesend works has been completed and manufacturing there will be begun shortly.

=THE INDIA RUBBER WORLD is advised on authority that it was in error last month in stating that Mr. J. M. F. Fuller, lately re-elected to parliament in the western district of Wiltshire, "is financially interested in The Avon India Rubber Co., Limited." He is, however, a brother of Mr. R. F. Fuller, manager of the company.

=Mr. J. M. MacLulich, general manager of the Sirdar Rubber Co., Limited (London), in order to complete the installation of machinery in their new factory at a given date, recently secured the sole services of Francis Shaw & Co., the well known rubber machinery engineers, with the proviso that for 18 weeks no other contract for machinery should be taken, the machinery to be in place in the new factory at a fixed date, under penalty.

=The directors of Callender's Cable and Construction Co., Limited (London), are understood to have under consideration the idea of establishing branch works in Germany, to offset the loss of continental trade, owing to the prohibitive tariffs of protective countries.

=The mayor and mayoress of Salford (Alderman Isidor Frankenburg and Mrs. Frankenburg) held recently a series of brilliant receptions in the Royal Museum, Peel Park. The first was to the members of public bodies, public officials, and prominent people of Salford and surrounding districts; the second chiefly to the teachers of Salford; and the third to the employees of Isidor Frankenburg & Co., Limited.

=The St. Helens Cable Co., Limited (Warrington, England), advise that their Scottish business has been concentrated in one branch—191, Howard street, Glasgow. The cable department remains under the management of A. Cowie, and Robert Sinclair has taken charge of the tire and mechanical goods departments.

GERMANY.

THE Munich firm Aktiengesellschaft Metzeler & Co. closed the year 1905 with earnings of 254,746 marks, including the amount carried over from the preceding year, against 270,723 marks for 1904. The directors on March 20 declared a dividend of 5 per cent. In view of the encouraging growth of the business, the capital stock will be increased about 800,000 marks, the present figure being 1,600,000.

=THE Gelnhausen factory of the Vereinigte Berlin-Frankfurter Gummiwaren-Fabriken lately turned out several sections of suction hose for the Krupp iron works, which they claim are the largest that have yet been made. An examination of the photograph of the products, which has reached the INDIA RUBBER WORLD, seem to substantiate their statement.

=A correspondent of THE INDIA RUBBER WORLD writes from Plauen in Vogtland: "I found out that in this town of 106,000 souls there is not an American rubber shoe to be had. How is that for high? I informed our consul here of the lack of rubbers and he is writing about it to Washington."

GERMAN SUBMARINE CABLE ENTERPRISE.

[FROM "THE ELECTRICAL REVIEW," LONDON, FEBRUARY 23.]

THE article which we publish elsewhere on the above subject should, we venture to think, be read with interest, and possibly advantage, by any Englishman who considers that submarine telegraph is a field in which British manufacturers and engineers have a monopoly which can be comfortably relied on as a permanency. As happened in the case of Italy and France, the need for submarine cables led to the establishment of a German factory and to the building of German ships, with a result, at least in this case, which must be admitted as most creditable to all connected with the undertaking.

There has never been any need up to now [for Great Britain] to fear foreign competition in the manufacture of submarine cables, and all the British manufacturer has asked has been a fair field and no favor. But this latest German enterprise suggests at least that we should be on the *qui vive* lest, thanks to many advantages they possess, and to the support which is given them by their government, our neighbors succeed in stealing a march on us.

There appears to be every reason why cables should be as cheaply manufactured in Germany as in England. Iron or steel wire, which is the chief item in most cables, at least as regards weight, is mostly manufactured in Germany, and, indeed a large proportion of that used in the construction of English cables is supplied by the very firm mentioned as having started the Norddeutsche Seekabelwerke. Copper wire is cheaper in Germany than in England, Gutta-percha and India-rubber are as much in the hands of German merchants as any others, and the other minor component parts are hardly worth considering.

As everyone knows, the Thames, on whose banks are the works of all the English companies, is a very unfavorable locality, and these companies are heavily handicapped by an amount of taxation which is imposed nowhere else, and which is well nigh insupportable. At the last general meeting of the oldest cable manufacturing company the chairman stated that a saving of £25,000 a year in taxation would result if their works were moved to the Tyne, and at the same time pointed out that this amount, if capitalized, would suffice for the erection and equipment of works of the best modern design in a more favorable neighborhood.

Added to the difficulty as regards taxation, there is another which is intimately connected with it, namely, the high rate of wages and the poor quality of much of the labor obtainable. Germany is not a cheap place, take it all round, but wages are lower and the class of labor better. A friend of ours who spent nearly a year on the German telegraph steamer *Stephan* told us that during that time he never saw any member of the ship's crew the worse for liquor, either on board or on shore. That is a great deal to be able to say, and even if the English sailor may be a smarter man and generally more experienced, most shipmasters, if they studied their own convenience, would prefer the German.

There is just a suspicion in our minds that some of our manufacturers may be taking things too easily and failing to keep themselves thoroughly up to the times in regard to both machinery and ships. One hears of electric motors driving all the cable machines at Nordenham, of X-ray

apparatus for examining core and joints, of electric welding for the sheathing wires and so on, and one cannot help being struck with the difference between such modern methods and the equipment of some of our cable factories. In ships, too, the difference is still more marked. Compare the *Stephan*, with several of ours which, despite the admirable work they accomplish, can hardly be said to be of the highest efficiency.

All such modern features are, of course, to be expected with a company which has just made a start, and has had the sense carefully to adopt the best of everything, no matter of what nationality, but surely experience should have taught us the importance of not running any danger of being left behind.

Some years ago Sheffield and Birmingham felt German competition very seriously, because they were slow to wake up to the fact that improved machinery was constantly required. Now they not only hold their own, but can successfully compete against the cheapest German manufactures. The penny scissors which are just now to be bought in many stationers' shops are a good illustration; they are not made in Germany, but in Birmingham. This, of course, has little bearing on the matter, and has not much to do with submarine cables, in the manufacture of which great care and skill are required; but with the facts we have mentioned, and with the recent feat accomplished by Germany—that of making and laying over 6000 miles of submarine cable without a fault, and almost without a hitch—we think we are justified in giving the matter considerable prominence, and in sounding, not the "alarm," but the "veille!"

[THE manufacture of submarine cables in Germany has assumed important proportions since the firm of Felten & Guillaume (Mülheim a/R), in 1899, founded the Norddeutsche Seekabelwerke Aktiengesellschaft, with works at Nordenham. In addition to numerous smaller undertakings, the German works have made and successfully laid a transatlantic cable, and the German-Dutch cables in the Far East, now aggregating nearly 4000 miles, and important new undertakings are in prospect.]

INTEREST IN CEARA RUBBER IN INDIA.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I would be very greatly obliged if any of your readers would kindly give me information upon the following points connected with the tapping of Ceará rubber (*Manihot Glaziovii*).

In all cases where I have tapped this variety the tree has died.

My method has been doubtless crude and has been by stabbing the tree closely all over, piercing the cambium and wounding the young wood.

Would any of your readers who have had actual experience in the tapping of Ceará, kindly say whether this dying of the trees is attributable to my method of tapping, or whether it is a necessary result of tapping Ceará at all?

I would also ask whether the stripping of the rough outer bark at any period of the year causes injury to the tree, and what the best method of tapping is?

How long does it take for the bark to renew itself?

Shimoga, Mysore, India, February 3, 1906.

CEARA.

RECENT RUBBER PATENTS.

UNITED STATES OF AMERICA.

ISSUED FEBRUARY 6, 1906.

- N**O. 811,546 Punching bag. P. J. Conroy, New York city.
 811,619. Horseshoe. F. N. Cline, Chicago.
 811,622. Air cushion for vehicles [having inside a spring adapted to support the vehicle when the pressure of air is diminished in the cushion]. M. Downer, Chicago.
 811,686. Hose rack. [Described in THE INDIA RUBBER WORLD, March 1, 1906—page 199.] W. D. Allen and C. F. Bowes, assignor to W. D. Allen Mfg. Co., all of Chicago.
 811,732. Armor for pneumatic tires. A. A. Moore, assignor of one-half to F. H. Bessenger, both of Detroit, Mich.
 811,793. Method of making waterproof welts. J. R. Reynolds, assignors to the Waterpro of Welt and Filler Co., both of Hartford, Conn.
 811,836. Electrical hose signaling apparatus [for use in connection with fire hose] W. Fowler, Colorado Springs, Colo.
 811,936. Apparatus for applying tires to wheels. A. R. Le Moon, assignor to Nelson & Le Moon, both of Chicago.
 812,020. Embalming catheter. H. M. Crippen, Ballston Spa, assignor to The Max Huncke Chemical Co., Brooklyn, N. Y.
 812,144. Dumb bell [having a hand portion consisting of an air tight receptacle made of practically indestructible flexible material and an inflating and deflating tube.] A. W. Mackenzie and J. Eoss, assignors of one-third to J. Gill, all of Edinburgh, Scotland.
 812,165. Tire. [Solid, with retaining wire and flanged retaining plate.] J. L. Connable, Chattanooga, Tenn., executrix of said J. L. Connable, deceased, assignor of one-half to F. L. Connable, Wilmington, Del.

Trade Marks.

- 1,166. Flexible waterproof fabric for use as roofing, damp courses, and other purposes. The Standard Paint Co., New York city. *Essential feature.*—The word RUBEROID.
 7,453. Rubber boots, shoes, and sandals. Bentley & Olmsted, Des Moines, Iowa. *Essential feature.*—Two diamond-shaped figures, one inclosing the other, the inner diamond inclosing two stars and the words BLUE LABEL LINE.
 11,328. Insulated wire and insulated wire cables. Phillips Insulated Wire Co., Pawtucket, R. I. *Essential feature.*—The representation of a globe encircled by two coils of cable between which appears the word IDEAL.
 11,329. Insulating conducting wires for telegraphs, telephones, electric lights, etc. *Same.* *Essential feature.*—The letters O K. on a black disk surrounded by concentric circles.
 13,506. Automobile horns. Gabriel Horn Mfg. Co., Cleveland, Ohio. *Essential feature.*—The word GABRIEL.

ISSUED FEBRUARY 13, 1906.

- 812,259. Tire protector. J. E. Caps, Kansas City, Mo.
 812,321. Vehicle tire. [Solid, with side retaining wires, and stiffening members embedded in the tire.] H. R. Auld, Boston.
 812,373. Pneumatic tire protector. [A series of curved metallic protecting pieces.] L. L. Sidwell, Rivera, Cal.
 812,384. Reinforcing fabric for innersoles. [Involves the use of resinous Gutta-percha. A. Thoma, Cambridge, Mass., assignor to Commonwealth Trust Co., trustee, Buffalo, N. Y.
 812,427. Wheel tire for automobiles [Rubber and metallic springs combined.] H. Kerngood, Baltimore, Md., and Harry A. Taylor, New York city.
 812,484. Rubber shoe sole and heel. F. C. Connor, Waco, Tex.
 812,496. Resilient heel and sole. [Involves the use of sponge rubber.] H. E. Irwin, Galesburg, Ill.
 812,532. Automatic air pipe coupling. [For railway use.] P. Settino and P. Hoover, Steelton, Pa.
 812,605. Rubber tire guard. [A network of alternating cruciform links and ring like links.] L. Slama, Humboldt, Neb.
 812,647. Reservoir pen. R. T. Gillespie, Lisbon, Ohio.
 812,698. Elastic tire for vehicle wheels. T. Sterne, Paris, France.
 812,706. Respirator J. Warbasse, Newton, N. J.

Reissue.

- 12,450. Rim for rubber tired wheels. O. L. Pickard, Toledo, Ohio. [Original No. 771,445, issued Oct. 4, 1904.]

Trade Marks.

- 3,176. Fountain pens. The Century Pen Co., Whitewater, Wis. *Essential feature.*—The words THE CENTURY PEN inclosed in a circle with rays radiating therefrom.
 15,290. Rubber hose. Mulconroy Co., Inc., Philadelphia. *Essential feature.*—The word DYNAMITE.
 15,291. Rubber hose. *Same.* *Essential feature.*—The word PORTAL.

ISSUED FEBRUARY 20, 1906.

- 812,842. Milking apparatus. E. E. Good, Waterloo, Iowa, assignor to The Sanitary Cow Milking Co., Minneapolis, Minn.
 812,855. Milking machine. F. Ijungstrom, assignor to Aktiebolaget Separator, both of Stockholm, Sweden.
 812,893. Wheel tire. [Two or more parallel solid tires.] E. F. Sobers, Bethlehem, Pa.
 812,921. Baseball glove. [Comprising an inflatable cushion.] E. H. Decker, Keokuk, Iowa, assignor of one half to J. Stitley, Joliet, Ill.
 813,254. Spray. [For applying insecticides to plants.] J. M. Sweeney, assignor of one-third each to F. M. Schwartz, Anaconda, Mont., and Hugh H. Sweeney, Seattle, Wash.
 813,256. Pipette. Shin-Ichi Takaki, New York city.
 813,344. Inhaler. C. S. Birt, Birmingham, England, assignor, by mesne assignments, to E. DeTrey & Sons, of Pennsylvania.
 813,359. Hose coupling. E. J. W. DeForrest and F. I. DeForrest, Bradner, Ohio.

Trade Marks.

- 1,855. Leather and rubber cement. Eclipse Cement Packing Co., Philadelphia. *Essential feature.*—The words BULL DOG, and the representation of a bull dog in recumbent position.
 5,155. Rubber combs. American Hard Rubber Co., New York city. *Essential feature.*—The word PRINCESS.
 5,156. Rubber combs. *Same.* *Essential feature.*—The word RENAISSANCE.
 5,157. Rubber combs. *Same.* *Essential feature.*—The word IMPERIAL.
 9,006. India-rubber bags and pouches. Continental Caoutchouc Co., New York city. *Essential feature.*—The word CONTINENTAL.
 10,675. Combs. Dr. Heinr. Traun & Söhne, Hamburg, Germany. *Essential feature.*—The word NEPTUNE.
 13,891. Flexible gas-tubing. New York Gas Tubing Co. *Essential feature.*—The word STATITE.

ISSUED FEBRUARY 27, 1906.

- 813,431. Diving apparatus. T. Iwanami & M. R. Woodward, Washington, D. C.
 813,529. Tire [for emergency use]. R. G. Smith, assignor of one-half to Auto-Car Equipment Co., both of Buffalo, N. Y.
 813,534. Fountain pen. G. Sweetser, Upper Norwood, England, assignor to T. De La Rue & Co., Ltd., London, England.
 813,676. Vehicle tire. [Solid, with side retaining wires.] G. M. Stadelman, Akron, Ohio.
 813,731. Aerating device for mattresses. J. Murmans, Cleveland, Ohio.
 813,769. Tuning instrument [for pianos]. N. Bryant, Battle Creek, Mich.
 813,792. Hose coupling. S. W. Gooch, Bridgeport, Ohio, and W. C. Leasure, Wheeling, W. Va.
 813,894. Nursery bottle. B. Holliday, Richmond, Va.
 813,900. Protecting device for pneumatic tires. E. Lapisse, Elbeuf, France.
 813,934. Protective cover for pneumatic tires. J. Albers, Aachen, Germany.

Trade Marks.

- 1,620. Rubber boots and shoes. Lambertville Rubber Co., Lambertville, N. J. *Essential feature.*—The word SNAG-PROOF in quotation marks, associated with a representation of a rubber boot and a pair of rubber shoes.
 2,401. Cotton rubber lined hose. Eureka Fire Hose Co., Jersey City, N. J. *Essential feature.*—The word PIONEER.
 2,408. Cotton rubber-lined hose. *Same.* *Essential feature.*—The word VULCAN.
 5,154. Rubber combs. American Hard Rubber Co., New York city. *Essential feature.*—The word ATLANTIC.
 5,158. Rubber combs. *Same.* *Essential feature.*—The word COMET, and the representation of a comet.

- 5,100. Hard rubber syringes. *Same. Essential feature.*—The word symbol EUREKA.
- 5,103. Hard rubber combs. *Same. Essential feature.* The word symbol HERCULES.
- 11,010. India rubber bags and pouches. Continental Caoutchouc Co., New York city. *Essential feature.*—The representation of a prancing horse upon uneven ground at the center of concentric circles between which appear the characters C. C. & G. P. CO., N. Y.
- 16,306. India-rubber binding. Knapp Rubber Binding Co., New York city. *Essential feature.*—The words KNAPP RUBBER BINDING CO.
- 16,307. India-rubber binding. *Same. Essential feature.*—The representation of a frame upon the upper cross-bars of which is supported a piece of rubber binding and between said cross-bars of which is secured a piece of matting; the words BIND THE RAGGED EDGE and the words KNAPP RUBBER BINDING CO., N. Y.
- 16,498. India-rubber stair-nosings. *Same. Essential feature.*—The representation of a flight of three steps the treads of which are protected by coverings and the edges of the treads of which are protected by nosings; the word ANTISLIPPIN and the words KNAPP RUBBER BINDING CO., N. Y. the whole inclosed within a square border.
- 16,499. India-rubber stair-nosings. *Same. Essential feature.*—The representation of two flights of steps in a common landing, starting toward which upon the lowermost step of one flight is shown a man and leaving which on the lowermost step of the other flight is shown a woman; and the words KNAPP RUBBER BINDING CO., N. Y. Upon the side of the steps is shown a piece of nosing upon which appears the word ANTISLIPPIN.
- 16,513. Elastic tubing adapted for use as hose or packing. New Jersey Car Spring and Rubber Co., Jersey City. *Essential feature.*—The word GIBRALTAR.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each, postpaid.]

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1904.

* Denotes Patents for American Inventions.

[ABSTRACTED IN THE OFFICIAL JOURNAL, FEBRUARY 7, 1906.]

- 22,147 (1904). Handle of cricket bat [with strips of rubber let in to the surface]. H. O. Clarke and J. W. Weeks, Maidstone, Kent.
- 20,203 (1904). Pneumatic tire. [Conical studs arranged around the tread in rows; the shanks of the studs pass through recesses in an annular holder and bear against a rubber cushion.] J. F. Johnson, Leicester.
- 22,332 (1904). Tennis ball. P. E. Droop, Chemnitz, Germany.
- 22,343 (1904). Elastic tire [constructed of detachable sections]. H. J. Haddan, London.
- 22,392 (1904). Pneumatic tire. [Outer covers with beaded edges and with retaining wires are secured to channel shaped rims having one edge removable by a wedge shaped ring.] W. A. Sankey, Sutton, Surrey.
- 22,543 (1904). Rim. [To facilitate the removal of tires the metal rim is formed with a removable portion.] H. W. Cave, London.
- 22,549 (1904). Means for attaching non slipping covers to tires. H. J. Haddan, London.
- 22,693 (1904). Horse shoe tread. H. Coop and Coop & Sons, Lancashire.
- 22,774 (1904). Waterproofing boots and shoes. [A solution of Gutta-percha in carbon bisulphide is used.] L. H. V. Smith (trading as W. H. Smith & Co.), Birmingham.
- 22,788 (1904). Fountain pen. T. M. Tripp, H. Jackson, and W. B. Jackson, all of Liverpool.
- 22,796 (1904). Exercising apparatus [consisting of elastic cords]. F. W. Croucher, Fleet, Hampshire.
- 22,802 (1904). Advertising balloons. C. A. Barrett, London.
- 22,890 (1904). Means for securing rubber pads to boots. J. Klumpp, Strassburg, Germany.
- 22,894 (1904). Pneumatic tire. F. G. McKim and J. M. Lenard, both of London.
- 22,973 (1904). Elastic tire [consisting of a series of cushion tubes interposed between the rim and the tire]. W. Clark, London.
- 22,996 (1904). Fountain pen. L. Doms, Vienna, Austria.
- 23,086 (1904). Anti slipping device for tires. [Consists of a series of chains with links closer together in the center, stretched diagonally across the tire and fastened to the rim.] H. Andrew, Plympton, Devon.
- [ABSTRACTED IN THE OFFICIAL JOURNAL, FEBRUARY 21, 1906.]
- 23,108 (1904). Valve for feeding bottle. Allen & Hanburys and J. Dowell, London.
- 23,138 (1904). Puncture preventing device. [Metal casing.] J. Monteith, Cranley, Carstairs, Scotland.
- 23,168 (1904). Portable vulcanizing apparatus for motor tires. H. H. Frost, London.
- * 23,171 (1904). Shaving appliance. [Comprising a rubber sponge.] T. E. Beck, Newark, New Jersey.
- 23,283 (1904). Non slipping tire cover. G. Desclée, Laken, Belgium.
- 23,298 (1904). Means for securing pneumatic tire to rim. C. Schmidt, Erfurt, Germany.
- 23,351 (1904). Vulcanizing apparatus [for jointing rubber tire tubes]. Anglian Motor Co. and J. B. Robinson, Newgate street, Beccles.
- 23,362 (1904). Elastic tire. [Built up of layers of canvas cemented together by rubber and having embedded in their bases bands of metal.] J. Cooper, Camberwell, Surrey.
- 23,393 (1904). Heel protector. H. J. Medway, London.
- 23,409 (1904). Football boot [with rubber pad inserted between the upper of the boot and the instep of the wearer]. D. Tomkies, Nottingham.
- * 23,545 (1904). Sand blast apparatus. J. E. L. Barnes, Liverpool. (Marine Construction Co., San Francisco, California.)
- 23,593 (1904). Device for locating punctures in tire inner air tubes. R. Tyler and C. Tyler, Leeds.
- 23,627 (1904). Heel protector. M. E., G. P. E. A., M. E., and E. M. Renard, all of Bordeaux, France.
- 23,652 (1904). Pneumatic tire [formed of a number of radial sections which are inflated during manufacture]. J. Stubbs and A. Shann, Sheffield.
- 23,697 (1904). Pneumatic tire with removable tread. I. Clifford, London.
- 23,703 (1904). Heel protector. A. Norreys, London.
- 23,783 (1904). Waterproof cape. [A rubber gutter with a beveled inner lip is cemented around the edge of the cape to catch the rain drips; a rubber tube communicates with the gutter at the back to convey off the water.] J. Jaques, London.

THE FRENCH REPUBLIC.

PATENTS ISSUED (WITH DATES OF APPLICATION.)

- 357,067 (Aug. 19, 1905). Maurin. Tire.
- 357,157 (Aug. 24). C. Challiner. Elastic tire.
- 357,168 (Aug. 24). C. H. Gray and T. Sloper. Pneumatic tire.
- 357,267 (Aug. 26). The Reillac Tyre Co., Ltd. Elastic tire.
- 357,269 (Aug. 26). A. P. Chopard. Pneumatic tire.
- 357,336 (Aug. 29). J. Neilson. Process for reclaiming rubber.
- 357,429 (Sept. 1). A. Mollinger. Double wheel rim, with pneumatic cushion between.
- 357,430 (Sept. 1). A. Pillard. Fitting wheels with elastic tires.
- 357,474 (Sept. 4). H. Harman. Pneumatic tire protector.
- 357,484 (Sept. 5). V. A. Perruche. Apparatus for cementing tread to pneumatics for vulcanization.
- 357,544 (Sept. 7). Société O. Englebert fils et Cie. Tire inner tube.
- 357,575 (Sept. 8). J. A. Plassard. Tube with protector for pneumatic tires.
- 357,612 (Sept. 9). J. Cooper. Tire and method of fastening same.
- 357,616 (Sept. 9). A. Vogelgesang. Method of protecting deflated tires.
- 357,626 (Sept. 9). H. Catrice. Compressible tires.
- 357,662 (Sept. 12). P. Gaultier. Burst proof pneumatic tire.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Bobet, Ingenieur-Counsel, 16 avenue de Villiers, Paris, at 50 cents each, postpaid.]

NEW GOODS AND SPECIALTIES IN RUBBER.

THE "MARCEL" COMB.

A DISTINCTIVE novelty in rubber dressing combs is illustrated herewith. It is marketed under the name "Marcel." In this comb the teeth are undulated and carried alternately to the back, insuring



strength and flexibility, and assisting greatly in the disentangling of the hair. The Marcel comb

is designed on scientific principles, has a beautiful appearance and for strength and durability cannot be excelled. The manufacturers report a large and increasing demand for this comb. [American Hard Rubber Co., No. 9 Mercer street, New York.]

NEW MARKET FOR RUBBER HOSE.

A NEW method of felling and cutting up forest trees is of peculiar interest because it opens one more important market for rubber hose of good



quality. The newest tool designed to supplant the woodman's ax consists of a saw that is operated by means of compressed air. From the storage reservoir lines of hose are stretched to the different points in the forest where trees are to be cut down. At the end of each hose is a cylinder and piston operating a large saw. These are mounted on a clamping bracket to hold

them in rigid connection with the log, and the operator has only to press the valve lever to admit air to the cylinder, guiding the saw through the log. One saw will do the work of a large force of men working in the old way.

SPALDING RUBBER COVERED INDOOR SHOT.

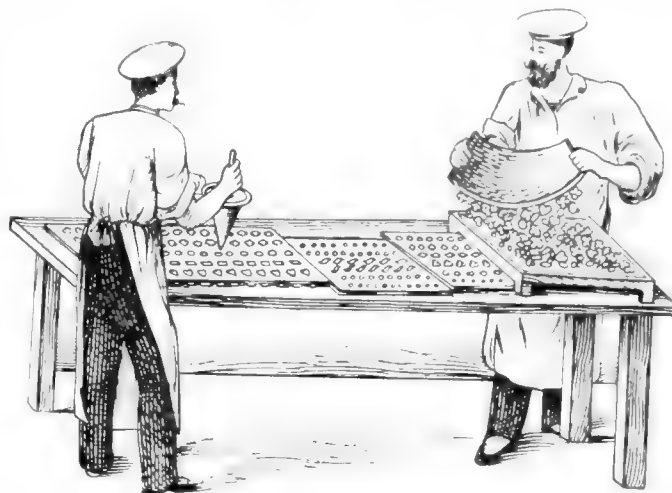
A NOVELTY that will be of particular interest to the athletic fraternity is a rubber covered shot intended especially for indoor gymnasium use. This ball is the result of several years' study by Mr. George L. Pierce, whose practical experience taught him need for such a device. The ball consists of a sphere of seamless, vulcanized rubber, with an internal reinforcement of stout woven fabric. Within this casing is a bag of woven fabric

inclosing enough leaden shot to give the ball the standard weight of 16 pounds. The ball, or shot, is made according to scientific principles, so as to form a perfect sphere. The rubber casing gives a fine grip and also affords the proper resiliency when it comes in contact with the floor. Besides the regulation 16 pound shot, a 12 pound shot is made for those who desire a lighter one. [A. G. Spalding & Brothers, No. 126 Nassau street, New York.]



RUBBER FORMS FOR CANDY MAKING.

A RUBBER mold for use in candy shops is such a simple thing that it would seem that anybody could have invented it, but nobody did until very lately, and now it appears to be an excellent thing. This mold consists of a sheet of rubber, with fanciful designs stamped into it, into which the hot candy is poured. When the candies have hardened, the



sheet is turned upside down, and bent back, which stretches each mold, and dislodges the confections. When hard molds are used, there is always more or less trouble caused by the candies sticking, so that clear impressions were hard to make. These molds are either made in thick, solid sheets, or thin sheets mounted on rubber legs. Before using they are washed in hot water and soda, and cleaned with a stiff bristle brush, and then dried for an hour or more. They must, of course, be kept away from all oil or grease. [Ver-einigte Gummiwaaren-Fabriken Harburg-Wien, Vienna.]

THE "CAT'S PAW" CUSHION HEEL.

To begin with, we must acknowledge that some folks don't know how to walk. Many men walk with their nerves, instead of with their leg muscles, which last are put there primarily for use, and whose beauty increases with reasonable employment. Did you ever notice that the man who does know how to walk actually gains an end something like that of a large wheel rolling? The Manx emblem, used widely in advertising the goods under review, illustrates one phase of the idea. The Manx wheel has three legs, but two will really accomplish the same result. In walking, the heel of one foot goes down before the weight is shifted from the other foot. Each leg is like a spoke in a wheel, the rolling motion being kept up by the constant shifting of the body's weight from heel to toe, each foot taking up the revolution where the other left off. Now everybody in the world, except the German army and Miss Prim's dancing school, walks in this way, from heel to toe, the weight coming on the heel gradually, instead of falling from one heel to the other. Accordingly, there should not be any jar in the rolling of this human wheel. The fact is, however, that most people notice some jar, all of which wears on their

nerves. By the simple device of a cushion heel plate of rubber such as the Cat's Paw, our two noble legs, thus well heeled, become a skid proof rubber tired wheel, whose motion approaches the ease and grace of a barefooted child on the grass. [Walpole Rubber Works, No. 170 Summer street, Boston.]

AN AUTOMATIC AIR BRAKE COUPLING.

Air brakes are of such general use and importance, that an automatic air pipe coupler, such as this, would naturally attract attention. The two, or rather the four members, which constitute this coupler, are supported by the cars. The joint is made by two U tubes, which fit into each other. The limbs of each U tube form a male and a female member, which fit air tight with the corresponding female and male members of the other. Each female member bears a guiding funnel, for the reception of the male member of the coupling. Each male member bears a nipple or piston of rubber, while the female members are lined with rubber. Thus, the coupling is automatic and air tight. The great danger which was formerly connected with the coupling of cars has now been removed by the automatic car coupler. The coupling of air brake hose does not carry with it such a considerable element of danger, yet there is a certain risk, and a considerable delay connected with the present method, both of which would be eliminated by the use of the automatic air pipe coupling. [Pietro Setting and Peter Hoover, patentees, Steelton, Pennsylvania.]

THE "KANTLEEK" WATER BAGS.

SPEAKING of hot water bags recalls the drummer "down East" who was accustomed to make a little money go a long way, like good rubber.

In response to a strong internal demand, he had stopped by the roadside for lunch; but before he had taken more than a few bites, was seized of a violent pain in his stomach, and cried aloud in his agony. In answer to his pitiful gasps, a rescuer took his (the drummer's) water bag, filled it with boiling water, and laid it gently over his inwards. Recovering instantly, the sufferer proceeded to warm up several fried eggs and slices of meat on the water bottle, and then poured out of it a

cup of hot coffee, and thus made a good meal. This biography is not meant to point a moral, but to illustrate some unusual uses of the hot water bag. The most authentic manuscripts do not say whether the bag which he used was a "Kantleek," but it probably was, because it did not leak. The Kantleek hot water bottles, fountain syringes, face bags, and ice caps are made for different uses, and in fashions differing from each other; but all bear the celebrated "Red Seal" trade mark, and are sold with the manufacturers unqualified guarantee. It has been said that plenty of cold water on the inside and the outside will cure four-fifths of the ills that human flesh is heir to. Local applications of hot water will relieve other ills not amenable to cold water. The Kantleek goods will attend to the whole matter of hot or cold local outside applications, and will cover several branches of the inside applications. If there were but one hot water bag in the world, it would be worth a million or so, but the Kantleek make so many, that they can sell them cheap, in various sizes, in red or white and will even cover them with softest eiderdown for a trifling consideration. Their syringes and ice caps are also made in beautiful style, in various sizes and shapes, of pure white rubber, with satin finish. [Seamless Rubber Co., New Haven, Connecticut.]

AN ENGLISH VACUUM DUST EXTRACTOR.

REMOVING dust from carpets while lying on the floor of a room is by no means a novelty, but it has heretofore been

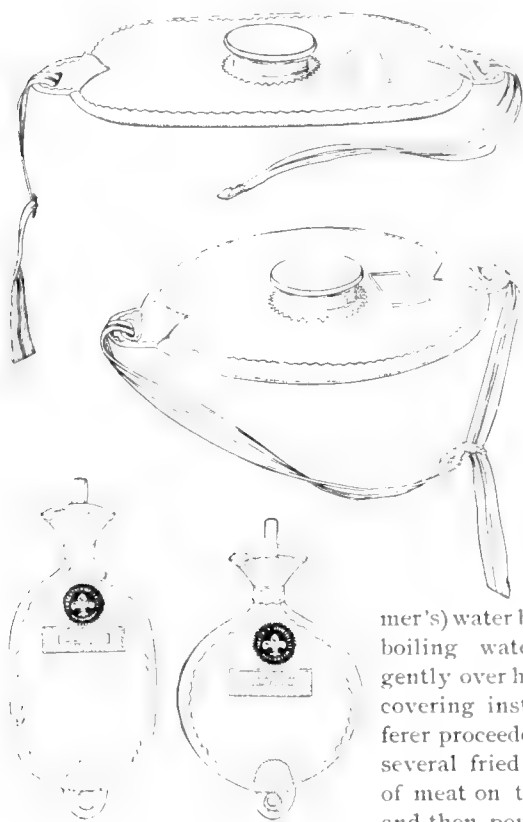
done by high power machines stationed in the street in front of the house, or by more or less expensive plants installed in the basements of large buildings. The air current necessary to remove the dust is carried through a rubber hose pipe to a receptacle outside



into which the dust is deposited. The utility of the vacuum process is generally recognized, its cost being the only thing that has prevented its taking the place of the old fashioned broom and dust pan method to a large extent. It has remained for an Englishman to invent cheap apparatus that is intended to take the place of the big machine. He has contrived a bellows like box which is fitted with the necessary tubing and attachments and containing a vacuum pump that is operated by foot power somewhat after the manner of a two pedaled sewing machine, the bellows box resting upon the floor of the room while the machine is in use. [The Witch Dust Extractor Co., Birmingham, England.]

A NEW PUNCTURE PROOF TIRE.

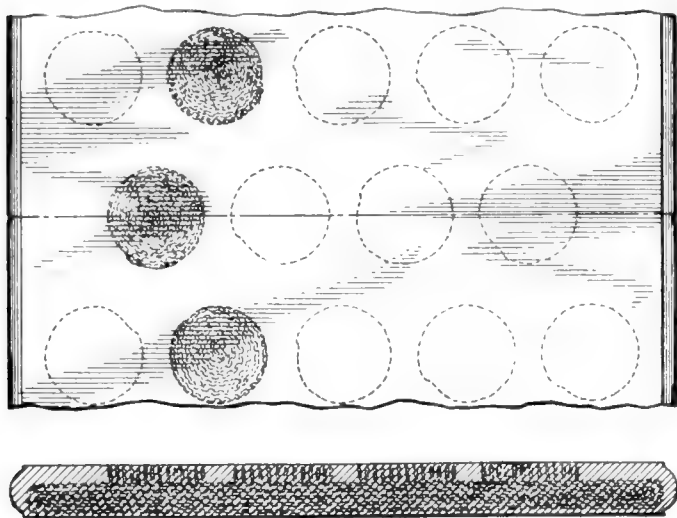
A NEW skid and puncture proof tire protector is illustrated herewith. The tread is of stout material, the skid feature being gained by the projection of numerous rivet heads. Within the body of the protector is a puncture resisting layer composed of overlapping strips of metal, too thin to interfere appreciably with the resiliency, and yet practically imperforable. These metal strips are held in place by having thin layers of rubber vulcanized between them, and rivets passing



though all. The whole is also reinforced by metal binding strips upon the margins. Underneath the tread, next the tire, is a lining made of fabric, enclosing a layer of granular cork, which serves to prevent heat reaching the tire. This lining forms part and parcel of the protector, which is in one piece. The tread is fastened on the tire by hinged clips, which hook under the rim clinches. This hinge in the clips is a valuable idea in itself, if it is made of rust proof metal. [John E. Caps, inventor, Kansas City, Missouri.]

THE VOORHEES CONVEYING BELT.

AFTER experimenting for a number of years, Mr. John J. Voorhees has produced and patented a conveyor belt which differs from others, with their surface of soft rubber, in that its outer covering is so arranged that the cotton or other fiber stands on end instead of being laid within the body of the belt in layers. The ends of the fibers project slightly beyond the smooth surface of the rubber, thereby supplying something that takes the greater part of the wear from the



rubber outer covering and adding greatly to the life and utility to the belt. This fabric is vulcanized into the belt, giving it the quality of great resistance to friction, without detracting from its flexibility. It is claimed also that the belt is much stronger than that made under the old processes. In one type of the Voorhees belt the vertical fibres are distributed uniformly throughout, while in another the fibers are disposed in clusters which may be as close and of any size as may be desired. These clusters may be formed of individual vertical fibers or flat tapes of fibers wound around to the desired size; but a substantial part of the fibers must project vertically, so as to take the wear and tear of the surface friction upon the ends of the fibers. [Voorhees Rubber Manufacturing Co., Jersey City, New Jersey.]

A NOVEL PNEUMATIC TIRE.

A STRIKING novelty that is engaging the attention of many automobilists is the R. & P. Traction Tread Tire, which has just been brought out. This tire is constructed on lines that are unlike those of any other antiskid, and it is claimed that, while as near puncture proof as it is possible for a pneumatic to be, even if a puncture should occur it would be attended by no bad consequences. The tire has two distinct features: (1) a flat tread made of tough rubber, and (2) a double ply interlining of bullet proof cloth. A leather protector

studded with steel rivets is attached to the tread by means of steel clamps that form a part of the protector itself. The bullet proof cloth is woven in such a manner that even should it be punctured, the wound closes itself, thus allowing no air to escape, so that tire repairs while on the road are unnecessary. Mr. John D. Prince, the inventor, and in charge of the New York office, is looking for a suitable factory. [R. & P. Traction Tread Tire Co., New York.]

"GIBRALTAR" PACKING.

WE have received a neatly got up sample of the "Gibraltar" black sheet packing, which seems to be an excellent product. It is astonishing how resistant this substance is to all conditions. It is pliant and yielding, extremely tough, and is entirely indifferent to oils, ammonia, or alkalies. It is recommended for the most difficult places, where other packings have failed. When used in steam fittings, it will not harden or burn under severe heat, and will not blow out under the highest pressure. It comes in four thicknesses, from $\frac{1}{32}$ inch to $\frac{1}{8}$ inch, and is also furnished in gaskets and rings. [New Jersey Car Spring and Rubber Co., Jersey City, New Jersey.]

ROEDDING REPAIR SOLE AND HEEL.

To the lumberman, rubber boots and shoes are as much a necessity as an axe. It is a hard life at best; but if he can keep his feet dry and warm, a certain measure of comfort is assured, no matter if Nature is trying to protect her forests in her own way, by loosing the elements against the woodsman. One great trouble about rubber footwear under all conditions, is the fact that it wears out too easily. A rubber boot or arctic overshoe may be perfectly good, except for a cut or worn place in the sole. To provide for this contingency, a Canadian firm is making repair soles and heels, by means of which a rubber boot or shoe can be easily soled by anybody, and made practically as good as new. A special rubber cement is supplied for the purpose. [The Merchants Rubber Co., Limited, Berlin, Ontario.]



INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values of exports of manufactures of India-rubber and Gutta-percha, for January, 1906, and for the first seven months of five fiscal years, beginning July 1, from the treasury department at Washington:

MONTHS.	Belting, Packin', and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
January, 1906.....	\$ 89,502	\$ 145,657	\$ 227,978	\$ 513,137
July-December....	648,498	1,043,180	1,398,042	3,089,720
Total.....	\$738,000	\$1,238,837	\$1,626,020	\$3,602,857
Total, 1904-05.	530,538	971,261	1,338,168	2,839,967
Total, 1903-04.	530,805	828,645	1,301,255	2,760,705
Total, 1902-03.	417,156	874,830	1,229,405	2,571,391
Total, 1901-02.	355,500	833,034	940,303	2,129,806

THE revolving rubber heels, after having a great run in England, have at last reached Germany, and Mr. Gustave Pabst, of Hamburg, is doing quite a business in them. They are also offered by a number of German manufacturers.

NEWS OF THE AMERICAN RUBBER TRADE.

FISK RUBBER CO. IN CHICAGO.

THE Fisk Rubber Co. (Chicopee Falls, Massachusetts) have acquired a long lease on Nos. 1440-1442 Michigan avenue, Chicago, on which they are erecting a building 27 x 170 feet, two stories high, with basement, which is intended to be a model rubber tire supply house, repair shop, and garage. This will be the headquarters of Mr. Ben H. Pratt, the company's Chicago representative, and Mr. Frank C. Riggs, manager of their Western district.

A RUBBER FACTORY IN KANSAS.

THE Kansas Rubber Co. has been organized with headquarters at Olathe, Kansas (about 20 miles from Kansas City), for the purpose of manufacturing mechanical rubber goods. A building for the factory has been completed and a representative of the company was recently in the east purchasing machinery. The company intend beginning with the production of solid rubber tires, mold work, and packing. They expect to make specialties of oil well and plumbers' supplies. The officers of the company are business men of the town named: I. B. Hibner, president; Edward Ripley, vice president; Charles Ott, treasurer; and Luther Moore, secretary. Charles A. Besaw, the superintendent, has been employed hitherto in the rubber industry at Akron and Milwaukee. He has a process for rubber reclaiming which the company purpose utilizing for supplying their own requirements in reclaimed rubber.

THE NEW RUBBER FACTORY IN INDIANA.

THE Elkhart Rubber Works (Elkhart, Indiana), the incorporation of which was reported in the last issue of this Journal, advises that their plant will be running some time during this month. Their intention is to manufacture automobile tires, valves, heels, bumpers, hose, and ultimately a general line of mechanical rubber goods. The president is Mr. Harry M. Shepherd, lately of Chicago, who is the principal shareholder. The company occupy a brick building 225 feet long and 54 feet wide, with an extension L at one end 50 x 50 feet. New machinery has been bought and the company plan to have one of the best equipped factories in the West.

APSLEY GOODS ON THE PACIFIC COAST.

It is understood that the newly incorporated Rubber Manufacturing and Distributing Co. will have their headquarters at Seattle, Washington. They intend to do a general rubber business and have secured the agency of the Apsley Rubber Co.'s full line of rubber boots, shoes, and clothing for Seattle, and also Portland, Oregon. It is rumored that they may manufacture a line of heavy rubber boots, lumberman's, and arctics at Seattle, making a line similar to the Mishawaka Woolen Manufacturing Co.'s, and marketing them on the same lines, direct to the retail trade. The company have rented a warehouse and are now located at No. 552 Perth avenue, Seattle. Mr. L. B. Hitchings, formerly of the Illinois Rubber Co. (Chicago) is the local manager. He took three salesmen with him from Chicago and has engaged two or three since he arrived on the field. The territory is being covered and they are out for business, and it may be very safely stated that the Pacific coast is to have another

strong, wide awake, and important rubber house. It is understood that the list of stockholders in the new company includes the Hon. L. D. Apsley, president and treasurer of the Apsley Rubber Co. (Hudson, Massachusetts), Joseph S. Bradley, President of the Hudson National Bank, Albert D. Gleason, Gleasonville, Mass., General William F. Draper, Hopedale, Mass., and United States Senator Murray W. Crane, Dalton, Mass., and that Ex-Congressman Apsley is president of the new company.

TO MAKE GOLF BALLS AT YOUNGSTOWN.

THE Republic Rubber Co. (Youngstown, Ohio) have taken on the manufacture of the golf balls marketed by the Seaman Manufacturing Co. (Milwaukee, Wisconsin) during the life of the patents, and will make exclusively the "Par" ball. The machinery of the Seaman company has been installed in the factory at Youngstown, in charge of Mr. A. D. Seaman, inventor of the ball, who will have charge of this department for six months. The ball will be marketed entirely independent of any combination or agreement with other manufacturers. A space of about 5000 square feet in the factory has been assigned to this department, and it is understood that orders have been received for a large number of balls.

HARBURG TIRES IN AMERICA.

THE Harburg Tire Co. (New York) the incorporation of which was reported in THE INDIA RUBBER WORLD January 1 (page 130) have established headquarters at No. 234 West Fifty-eighth street, where they have one of the most complete establishments of the kind. The building, which has been rebuilt especially for them, is two stories high, 100 feet deep and with a frontage of 21 feet. Besides, there is a basement, under the whole building which makes an ideal storage room for rubber stock. The company will handle the product of the Harburg and Vienna Rubber Co. (Vereinigte Gummiwaaren-Fabriken, Harburg-Wien) of Germany and Austria. Mr. R. L. Kingston is the manager. In connection with the salesrooms there is a finely equipped repair shop with a force of expert workmen.

A LARGE SPORTING GOODS BUSINESS.

A. G. SPALDING & BROTHERS (New York), whose large distribution of sporting goods embraces a great variety of articles of rubber, have filed with the New York commissioner of corporations a statement of condition comprising these details: Date of annual meeting, July 31, 1905. A. G. Spalding, president; William T. Brown, treasurer. *Assets:* Merchandise, \$647,200.60; cash and debts receivable, \$2,279,456.36; patent rights and trade-marks, \$1,998,801.64; good will, \$2,000,000; total, \$6,925,458.60. *Liabilities:* Capital stock, \$3,450,000; accounts payable, \$731,775.36; floating indebtedness, \$660,068; surplus, \$2,000,000; profit and loss, \$83,615.24; total, \$6,925,458.60.

ALLING STORES IN MASSACHUSETTS.

THE Alling Rubber Co., who for several years past have been operating a chain of rubber stores in Connecticut, have added to their list two stores in Massachusetts. On March 17, W. S. Alling of Norwich, Conn., opened a rubber store at No. 606 Main street, Worcester, Mass., which will be un-

der the management of E. H. Oehlhof, for the past eight years employed in the Alling stores at Norwich and New London. On the same date Noyes E. Alling and Amos P. Mitchell opened a rubber store at No. 128 North street, Pittsfield, Mass., which will be managed by John Myers, who has been employed in the New Britain and Hartford stores. For reasons due to his health alone Mr. Noyes E. Alling, the president of the Alling Rubber Co., will change his residence from Bridgeport, Conn., to Pittsfield, Mass., thinking that the higher altitude of the latter place may prove beneficial.

THE MATTSON RUBBER CO. FIRE.

THE five story factory and warehouse of the Mattson Rubber Co., at No. 26 West Broadway, New York, was badly damaged by fire on the night of March 12. The two upper stories were entirely destroyed and the three lower ones so damaged that extensive repairs will be necessary before they can again be used for business. The loss to stock and building is estimated by the company to be \$25,000, which was covered by insurance. While the company are arranging for permanent offices they have secured temporary headquarters at No. 76 Park place. The company were particularly fortunate in being able to make an arrangement with the Hardman Rubber Co., whereby they will hereafter manufacture at the Hardman works in Bellville, New Jersey. This means that the Hardman company will discontinue the manufacture of soft rubber goods, but will make hard rubber goods as heretofore. Just what will be done with the old factory in West Broadway when the repairs are completed has not been decided.

CHANGES IN RUBBER FACTORY MANAGEMENT.

JOHN ROBSON, for four years past general superintendent of the Woonsocket Rubber Co., has resigned that position and will be succeeded by George Schlosser, who has meantime been superintendent of the "Alice" and Millville factories of the company. Mr. Schlosser has retained Harry Wagner as superintendent of the Millville factory and will take charge of the "Alice" himself. Mr. Schlosser is a native of New Jersey and entered the rubber industry in the employ of the New Jersey Rubber Shoe Co. Later he went to Bristol and for five years was superintendent of the National India Rubber Co., after which he became connected with the Woonsocket company. Mr. Robson returns to Malden to take charge of the factories of the Boston Rubber Shoe Co., with which company he was long associated. During Mr. Robson's connection with the Woonsocket company the factories of the Boston Rubber Shoe Co. have been under the management of Colonel Frank L. Locke, who has gone to the Pacific coast on account of ill health.

CANADIAN RUBBER CO.'S ANNUAL.

AT the annual meeting of shareholders of the Canadian Rubber Co. of Montreal Limited, on March 8, an entirely new board of directors was chosen, thus completing the change of control already reported in THE INDIA RUBBER WORLD. The new board consists of Major G. Washington Stephens, M. L. A., D. Lorne McGibbon, Shirley Ogilvie, Alexander Pringle, M. C. Mullarky, H. J. Fuller, Harrison C. Frost, C. C. Ballantyne, and R. J. Younge. Major Stephens was elected president and Mr. McGibbon vice president and managing director.

Major Stephens, the new president, is one of the best

known of the younger generation of Canadian capitalists and business men; he is a member of the Quebec legislature. Four members of the board are actively connected with the business of the company: Mr. McGibbon, the general manager; Mr. Frost, manager of the general rubber division; Mr. Mullarky, manager of the rubber footwear department; and Mr. Younge, general sales manager. Of the remaining directors, Mr. Ballantyne is Canadian manager of the Sherwin Williams Paint Co., and president of the Canadian Manufacturers' Association; Mr. Pringle is a partner in T. Pringle & Son, construction engineers; Mr. Ogilvie is secretary of the Ogilvie Flour Mills Co., Limited; and Mr. Fuller president of the Canadian Fairbanks Co.

The annual report disclosed a highly satisfactory state of affairs. Despite the high cost of raw materials during the past year, a large increase in profitable business was gained. The dividend declared was 5 per cent. Referring to a report published in Canada of an offer made for the purchase of the company Mr. McGibbon advises THE INDIA RUBBER WORLD: "As far as the rumor that the United States Rubber Co. has made us an offer for our property, I wish to deny this. Our company is not for sale, and it is our intention to increase our capital in the near future, to provide for further extensions, both in plant and business."

It is understood that the directors have plans under consideration for establishing a large distributing branch in London, from which center direct shipments of "Canadian" rubbers will be made to the trade in the United Kingdom and also to the company's numerous distributors on the Continent.

RUBBER SHOE PRICES IN CANADA.

NEW lists on rubber footwear were issued by the Canadian manufacturers on March 12. The list prices do not vary essentially from those issued by the factories in the United States, except that some changes have been made to "even up" the lists. There has been some objection among retailers to what they considered inequalities in past lists. The trade discount this year is 20 per cent. from lists, against 17 per cent. last year. A special discount of 5 per cent. will be allowed until June 1 to encourage the placing of early orders. The cash discount is as usual 2 per cent.

THE BOSTON AUTOMOBILE SHOW.

THOSE who attended the fourth annual Boston Automobile and Power Boat Show (March 10-17) will not be easily convinced that it was the swan song of the Hub motorists. It is not likely that an exhibition that was so successful and so broad in its scope will not be followed by another. The Boston show by far exceeded the expectations of its promoters. This is true not only in point of attendance, but in the number and variety of exhibits. A significant fact is that there were more commercial vehicles shown than at either the New York or Chicago national show. Nearly every leading American and European maker of automobiles was represented and some had as many as half a dozen cars on view. The total number of cars shown was 763. The motor boat feature of the show was important in that it brought out a larger number of marine motors than were ever seen at a similar exhibition. What is true of the finished product in regard to number and quality of exhibits is equally true of the tire and other accessory departments, especially the former. The show attracted visitors from all

parts of the country and as a whole was so successful that a hard fight will be made against the decree of the automobile associations that hereafter there shall be but two national shows each year—at New York and Chicago. The exhibitors of tires and rubber accessories were:

A. W. Chesterton & Co.	Boston.
Firestone Tire & Rubber Co.	Boston.
Iron Tire Pneumatic Wheel Co.	New York.
Healy Leather Tire Co.	New York.
George W. Knowlton Rubber Co.	Boston.
Samson Leather Tire Co.	New York.
Columbia Vehicle Tire Co.	Boston.
The Pantasote Leather Co.	New York.
Mitchell Punctureless Pneumatic Tire Co.	Swampscott, Mass.
Boston Tire and Rubber Co.	Boston.
Pennsylvania Rubber Co.	Boston.
Salisbury Tire Co.	Owosso, Michigan.
Voorhees Rubber Co.	Jersey City, N. J.
Electric Rubber Manufacturing Co.	Rutherford, N. J.
L. C. Chase & Co.	Boston.

A NEW ELECTRIC CABLE COMPANY.

THE Electric Cable Co. (No. 42 Broadway, New York) has been formed to succeed the Magnet Wire Co. and the Peerless Electric Co., to manufacture wires for electrical purposes and "Voltax", a new non rubber insulation. Some important orders have been received from large buyers of insulated wire, including one for 15 miles from the Interborough Rapid Transit Co., of New York. The "Voltax" insulation is referred to as having been under tests for some years past, but it is now being placed on the market extensively for the first time. The officers of the company are Edwin W. Moore, president; Frederick H. Cowles, vice president; J. Nelson Shreve, treasurer; and H. S. Williston, secretary and electrical engineer. The company are erecting a large factory at Bridgeport, Connecticut.

A RUBBER MACHINERY FACTORY.

THE illustration shows the plant of the Bay State Machine Co. (Erie, Pennsylvania), manufacturers of rubber molds and rubber machinery. This company was established in March, 1898, to build gas and gasoline engines and do a general



machine business. Through Mr. Edward E. Allen, who is now president of the company, and who previously had charge of the mechanical departments of several rubber works, orders for mold work and other appliances for rubber factories came in unsolicited, so that this business began to grow and finally became their most important line and demanded increased facilities. Larger quarters were obtained, therefore, and the company became incorporated August 27, 1902. In less than three years these quarters were outgrown and in the summer of 1905 the factory shown above was erected by the company on a specially well located site belonging to them in Erie. The factory is thoroughly

equipped with modern machinery and well lighted and ventilated. The offices are handsomely furnished and are a cheerful place to drop into. The Bay State company are turning out an extensive line of rubber tubing machines, hydraulic presses, self vulcanizing wagon and automobile tire molds, bicycle tire molds, and molds for various kinds of mechanical goods. The familiarity of Mr. Allen, the president and superintendent, with the rubber business, as well as with mechanics, adapts him for the management of such a business. The other officers are H. G. Diefendorf, vice president and business manager, and T. O. Andrews, secretary and treasurer.

NEW INCORPORATIONS.

RUBBER Manufacturing and Distributing Co., March 7, 1906, under Maine laws; authorized capital, \$500,000. Directors: L. D. Apsley, Burton E. Eames, L. Barton, E. E. Noble, and G. E. Fogg. A fuller notice appears on another page.

H. M. & S. Armored Tire Co., February 26, 1906, under Pennsylvania laws; capital, \$5000, fully paid. Object, to manufacture hose and pneumatic tires under patents of James H. Swain. Oliver S. Hershman is president; Alexander P. Moore treasurer; and Mr. Swain secretary. Offices: No. 325 Fifth avenue, Pittsburgh, Pa.

=Burmester Rubber Co. (Boston) February 19, 1906, under Massachusetts laws; capital authorized, \$10,000. Incorporators: Frank H. Burmester, president; Melrose D. Davies, treasurer; George A. Sweetzer, clerk. Object, the selling of new tires of all kinds and the repairing of old ones.

=The Dentists' Dental Rubber Co., February 24, 1906, under Ohio laws; capital authorized \$1000. Incorporators: H. E. Andress, James W. Hoffert, M. M. Montenyoke, C. F. Grant, and F. E. Whittemore, all of Akron, Ohio.

TRADE NEWS NOTES.

THE Gutta Percha and Rubber Manufacturing Co. (New York) have changed the location of their San Francisco branch to more eligible quarters—No. 26 Fremont street.

=Mr. Otis R. Cook, for some years western traveling representative of The B. F. Goodrich Co. (Akron, Ohio), has resigned to become connected in a similar capacity for *Automobile Topics*, a New York publication.

=The Pittsburg Rubber and Leather Co. on April 1 take possession of new quarters, No. 14 Wood street, comprising four floors and basement in the 12 story Hartje building, Pittsburgh, Pa. They have there over 7000 square feet of floor space, against 2200 square feet at the old location.

=The factory of the National India Rubber Co. (Bristol, Rhode Island), was shut down in all departments for repairs and inventory on March 17, and will resume work on April 2.

=The two factories of the Woonsocket Rubber Co. were closed on March 29 for annual stock taking and general repairs.

=The final account of Frederick W. Starr, appointed May 17, 1904, receiver of the Royal Rubber Works Co. (Hartford, Connecticut), has been accepted by the court. The assets realized \$770.56, which permitted the payment of 18 per cent. on the unsecured claims after paying the expenses of the receivership. The company was incorporated in 1903, with \$4000 capital, to do a jobbing trade in rubber goods and hospital supplies. The receiver reported that the books had been badly kept and presented evidences of fraud

=The Banner Rubber Co. (St. Louis, Missouri) on March 14 filed suit in the circuit court against Friedman Brothers Shoe Co., of the same city, for \$60,811.55. The plaintiff asks \$42,917.45 for rubber boots and shoes alleged to have been sold under contract to the defendant December 6, 1904, and for \$17,894.10 for rubber boots and shoes alleged to have been sold to the defendant and held for orders, but never taken.

=It is announced that the factory of the Goodyear's Metallic Rubber Shoe Co. (Naugatuck, Connecticut), which has been closed for some time, will resume work on April 16. At the same time the factory of the Goodyear's India Rubber Glove Manufacturing Co., which closed for inventory on March 24, will resume work. The reclaiming plant of the United States Rubber Co., which closed in the middle of March, after having been run night and day for a year, will resume work early this month.

=The directors of the Celluloid Co. (Newark, New Jersey) have declared a quarterly dividend of $1\frac{1}{2}$ per cent. on the capital stock, payable April 2. The annual meeting was held in Newark on March 27.

=Thirteen firms tendered for the supply of fire hose to the city of Denver, Colorado, recently, when 10,000 feet was advertised for and the business was secured by four firms. Now the local representatives of the nine unsuccessful firms are complaining through the newspapers that a local political ring makes fair competition impossible, and that orders go by favor, without regard to price or quality of the goods. One firm asserts that next year it will tender for hose at below cost "just for the fun" of seeing what the city authorities will do.

=Mr. William Niedner, general manager for Charles Niedner, manufacturer of linen fire hose, at Malden, Massachusetts, has returned from an extensive business tour of the West and South, and reports business in their line very satisfactory.

=E. H. Broadwell, vice president of the Fisk Rubber Co. (Chicopee Falls, Massachusetts), spent part of last month in Bermuda, for the purpose of recuperating his health.

=Dr. Erwin Meyer, of Hanover, Germany, has accepted a position with the Rubber Goods Manufacturing Co., where he has charge of the research work in chemistry. It would be hard to find a man better fitted for this work. Dr. Meyer is a Doctor of Philosophy in the University of Berlin, where his ability, diligence and resourcefulness won for him the estimation of his professors and associates. With this most excellent preparation in chemistry, Dr. Meyer became chief chemist in the St. Helens Cable Co., Limited (Warrington, England), where he remained three years. His work there was in connection with rubber, rubber substitutes, and insulating compounds, so that he brings to the Rubber Goods company a thorough knowledge of the theoretical and practical details of the chemistry of rubber.

=American Chicle Co. dividends remain at 1 per cent. per month on ordinary and $1\frac{1}{2}$ per cent. quarterly on preferred shares. Quotations on March 24 were: *Ordinary*—175 bid; 180 asked. *Preferred*—104½ bid; 107 asked. Based upon the prices "bid," the \$9,000,000 of the company's issues would figure out at \$13,635,000.

=Mr. A. M. Stickney, president of the Wellman Sole Cutting Machine Co. (Medford, Massachusetts), has been very ill with pneumonia, but he is now pronounced out of danger.

=The Sawyer Belting Co., one of the subsidiary companies of the Rubber Goods Manufacturing Co., having completed the removal of their plant from East Cambridge, Massachusetts, to Cleveland, Ohio, all communications to them should be addressed to the latter place.

=Myron R. Hutchinson, for many years in France engaged with A. Hutchinson & Co., National India Rubber Co. of France and Germany, and later director of the works in Germany, has come to this country to stay, and is now in Boston.

=Mr. James A. Braden has resigned his position as advertising manager of the Diamond Rubber Co. to accept a similar position with the Atlantic Refining Co., of Cleveland, for whom he will exploit a new chemical product. Mr. Braden has been with the Diamond company for almost three years, leaving the newspaper business to accept the place. He will be succeeded on April 1 by Mr. H. S. Quine, who quits the same position on a local newspaper that Mr. Braden formerly held before he took up advertising work.

=The Buckeye Rubber Co. are planning to build an addition to their plant in East Akron, and sheds connecting this addition to the main plant. The sheds will be used for storing lumber.

=It is rumored that the La Crosse Rubber Mills Co. (La Crosse, Wisconsin) are considering a change of location, with a view to increasing the capital and building a larger plant, for the manufacture of rubber footwear.

=R. C. Cooley, trustee of the Dickinson Hard Rubber Co., (Springfield, Massachusetts), has conveyed to the Third National Bank of Springfield, the real estate occupied by that company hitherto.

=An extensive addition is being made to the plant of the Siemon Hard Rubber Corporation (Bridgeport, Connecticut).

=The Western Rubber Co. (Goshen, Indiana) are reported very busy, and have recently been ordering considerable machinery.

=Colonel Samuel P. Colt, president of the United States Rubber Co., is reported to have contributed \$10,000 to the John Hay memorial library fund of Brown University, started recently by the subscription of \$150,000 by Mr. Andrew Carnegie. Another item of news respecting Colonel Colt relates to the possibility that he may be a candidate for United States senator from Rhode Island to succeed Mr. Wetmore.

=The Standard Asphalt and Rubber Co. filed articles of incorporation in New Jersey on March 9, with \$1,000,000 capital authorized, in shares of \$1. Its stated object is to mine and sell bitumen, asphalt, rock, and minerals, and to carry on a general import and export business. The incorporators are: H. O. Coughlin, Thomas F. Barret, and John R. Turner, all connected with a corporation agency in Jersey City.

=The Fairfield Rubber Co. (Fairfield, Connecticut) recently extended their working hours to 10 P. M. and were reported to be likely to work nights all this summer.

=The Consolidated Tire Co. sued the Springfield Rubber Tire Co. (New Haven, Connecticut) in the United States at Hartford for alleged infringement of trade mark and brand. The defendant filed a demurrer that the trade mark used did not sufficiently resemble the plaintiff's trade mark to form a *prima facie* case of infringement. The court on March 15 overruled the demurrer and allowed the defendant 20 days in which to file an amendment.

=The Day Rubber Co. (St. Louis) have established a branch at Joplin, Missouri, under the management of F. C. Jones and O. G. Jones, who have been connected with the house for several years. The Joplin branch will carry a large stock of belting, packing, pump valves, steam hose, air hose, and other supplies suited to the trade of a mining district.

=The Perfect Golf Ball Co. have made an assignment to the benefit of creditors, to William H. Heustings, of Boston.

=The Montreal fire and light committee have given an order for 7500 feet of fire hose to the Canadian Rubber Co. of Montreal, at a higher price than some of the competing goods offered.

=The Electric Vehicle Co. (Hartford, Connecticut) have brought suit against the Hartford Rubber Works Co., alleging infringement of certain patents on tires. The Turner endless tire is involved.

=Boston Woven Hose and Rubber Co., hitherto a corporation under the laws of Maine, have filed articles of incorporation with the secretary of state of Massachusetts, with \$1,200,000 capital. J. N. Smith is president, and H. B. Sprague, of Lynn, Mass., treasurer.

ASBESTOS MEN WANT MORE PAY.

A BOSTON report [March 24] says: "During the past week a special committee from Insulator and Asbestos Workers' Union 6 has visited the employers in that industry and presented them with the union's request for an advance in wages from \$3 to \$3.50 a day of eight hours, to take effect on May 1, 1906. As the meeting of the union last night in Rathbone Hall the committee reported that the employers had refused to grant the request on the ground that it was inexpedient and that they could not afford it at the present time. The members discussed the attitude of the employers at length and voted to stand by their demand on May 1. Trade was reported good, with every member at work, and a demand for union men from several sources. Four new members were admitted and one application for membership acted upon."

NARROW ESCAPE OF A RUBBER STEAMER.

AN important cargo of rubber was endangered by the stranding of the steamship *Cearense* on Island Beach, New Jersey, on March 16. The *Cearense* left Para on March 3, and was consigned to Booth & Co., New York. She went ashore in a blinding snowstorm, and was severely pounded by the high seas until she was pulled off the sand bar on March 19. The vessel was badly damaged, but the cargo was finally landed intact. The manifest shows 1,047,000 pounds of rubber, the details of which appear in the regular statistical pages of this Journal.

MILWAUKEE RUBBER WORKS CO. INSOLVENT.

A PETITION in involuntary bankruptcy, alleging debts exceeding \$100,000, was filed against the Milwaukee Rubber Works Co., whose plant is located at Cudahy, Wisconsin, at Milwaukee on March 21. The complaining creditors are William Becker, a director in the company from the beginning and latterly its president, and several companies who have sold supplies to the rubber works. Mr. Becker appears to be by far the largest creditor. The company was incorporated in March, 1903, with \$200,000 capital paid in, and has made a specialty of the manufacture of tires. There have been reports recently of plans for reorganizing the com-

pany, and as the factory has been active all the while, the hope is entertained that some one of these plans may be successfully developed.

NEW YORK STOCK EXCHANGE TRANSACTIONS.

UNITED States Rubber Co. :

DATES.	Common.			Preferred.		
	Sales.	High.	Low.	Sales.	High	Low.
Week ending Feb. 24	7,140	51	49	800	109½	108
Week ending Mar. 3	10,300	52½	48¾	5,905	113½	108
Week ending Mar. 10	17,003	54½	50¾	9,150	114	111
Week ending Mar. 17	7,400	54	53	4,700	113¾	112½
Week ending Mar. 26	6,550	53½	52¼	1,650	113½	112

SECOND PREFERRED.

Week ending—	Feb. 24.	Mar. 3.	Mar. 10	Mar. 17.	Mar. 24.
Sales.....	860	2,800	4,500	1,100	450
High.....	81	82½	84¾	84½	83
Low.....	79¾	80	81½	82	82¼

UNITED STATES RUBBER CO AFFAIRS

DURING the latter part of March there was an unusual amount of trading in common stock of the United States Rubber Co., and at advanced figures. The situation as generally regarded is indicated in this extract from the financial columns of the New York *Sun*, March 27 :

Dividend expectations figured in the advance in United States Rubber, but the Street could not understand why if earnings were large enough to permit of disbursements for the common the preferred issues should utterly fail to reflect the increased prosperity. The traders thought that there was a good deal of manipulation, and that it was not particularly well done, as in their view the best course would be to make a broad and active market for the higher issues and allow the common to shine in their reflected light. In very respectable quarters it was said, however, that whatever might be the object of manipulation of the common stock there was good reason to believe that it would be put on a dividend basis before the end of the calendar year.

It has been asserted in print that the United States Rubber Co. are the real purchasers of the control of the Atlantic Rubber Shoe Co., though this report lacks confirmation. It may be mentioned, however, that control of companies has not always been acquired by the United States through direct purchase.

DIAMOND RUBBER CO.—NEW TIRE.

A SOLID tire for commercial vehicles made on an entirely new plan is being put out by The Diamond Rubber Co. (Akron, Ohio.) It is fastened to the rim by a wire mesh base. In this new tire the ordinary "buggy tire" idea is abandoned, and it is constructed with a wide base with wires running longitudinally and transversely, forming a mesh in which the rubber is fastened. The design of the new tire is to procure efficiency of base and the attaching system, and general economy of shape. A wide tread is used on the theory that in commercial vehicles the tread of the tire must deliver the mileage. A rubber compound is used in these tires which has been developed by careful test under exaggerated loads and varying speeds. It is cured by a process which insures even and perfect vulcanization clear to the center. Patents covering this design of tire have been issued to A. H. Marks. Above 5 inches the twin tire shape is used. The largest tires are even tripled. It is argued that the use of a single tire in sizes above 5 inches is bad practice.

THE NEW JERSEY RUBBER INDUSTRY.

BY A REGULAR CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: A canvass of the rubber manufacturers of Trenton shows the business to be in a most promising condition, and the general opinion is the ensuing year will show the greatest production in the history of the industry in this city. Many plants have enlarged their buildings and increased their force, until there are now about 2000 employes in the various factories.

The Eureka Rubber Manufacturing Co. of Trenton, with their newly installed machinery for the manufacture of automobile and other vehicle tires are steadily pushing to the front in this line.

The Crescent Belting and Packing Co. recently installed a lot of new machinery and increased their force to keep up with orders on hand. The United and Globe Rubber Manufacturing Cos. with their enlarged plant will be able to double the output of last year. The Hamilton Rubber Manufacturing Co., also with added facilities will greatly increase their output.

The Joseph Stokes Rubber Co. have found it necessary to add to their plant and equipment in order to keep up with their growing hard rubber business. The same conditions prevail at the Home, Grieb, and some other companies.

The reclaiming plants are unusually busy and a prominent dealer in scrap rubber said in an interview, that it was very difficult to meet the demands for this class of material. One concern alone is using 30 tons per week and finds difficulty in obtaining supplies even at the advanced prices prevailing.

The large new factory of the United and Globe Rubber Manufacturing Cos. is now in full operation. A line of fourteen new mixers and two washers, together with two large calenders are driven by an 800 HP. Allis-Chalmers engine. Rope transmission is used with very satisfactory results. A new electric lighting plant has also been installed and it is understood that the company expect, with their increased facilities, to do a \$2,000,000 business for this year.

The incorporators of the Walter Automobile Co., with \$1,000,000 capital authorized, and registered office in Whitehead road, near the factory of the Trenton Rubber Manufacturing Co., include a number of well known business men, including Mr. C. Edward Murray and others in the rubber industry, and Washington A. Roebling II. The purpose is to manufacture automobiles and automobile accessories, the latter, it is understood, to include some rubber goods. Plans have been drawn for a factory on a large scale, based upon the results of an inspection of the leading automobile plants in the country by a committee of the shareholders of the new company.

The New Jersey Rubber Co. have purchased a flour mill property adjoining, on the west and southwest, their plant at Lambertville. The addition measures 200 feet front and extends to the Delaware river. The property contains a four story stone mill 40 x 60 feet. All the milling machinery has been removed and the structure is being used as an additional storehouse. Charles M. Dilts, secretary and treasurer of the company, states that during this month they will commence the erection of another building on the purchased land to be used in connection with their rubber reclaiming work.

The employees of the Hamilton Rubber Manufacturing Co., served their annual banquet in Thomann's Hall, in Trenton, on the evening of March 15. It was well attended. Preceding the dinner the workmen participated in a bowling contest between six-men teams. Schmidt was the high roller with 187 to his credit in the last game, and an average of 168. Schmidt's team was composed of Corbett, Palmer, Wilson, Fields, and Ellicott; their opponents were Schultz, Irvin, Ent, Allen, Applegate, and Walker. Captain Schmidt and his men got a total of 2742, and the best the other side could do was 2588. During the dinner a musical entertainment was given.

Mr. Allan Magowan, head of the Modern Rubber Manufacturing Co., at Trenton, is recovering from a long illness with pneumonia, and hopes to be able to resume business shortly. Mr. Magowan is one of the oldest members of the rubber trade, having been engaged in it almost continuously for 59 years—or since entering the employ of the New England Car Spring Co. (New York) in 1847. [A full sketch of Mr. Magowan appeared in THE INDIA RUBBER WORLD, November 1, 1902—page 52.]

What might have proved to be a serious fire was averted at the Empire Rubber Manufacturing Co.'s factory on March 9, by the prompt action of the watchman and the quick response of the fire department. A blaze was discovered among a number of crates of paste boxes in the shoddy department and an alarm at once turned in. As it was the loss was only about \$175.

One of the large calenders in the plant of the Lambertville Rubber Co., broke while in operation on March 7, but fortunately no one was hurt.

The Luzerne Rubber Co., Trenton's newest concern in this industry, which commenced operations last fall, is now in full running order and is rushed with work. Officers of the company state that business is unusually brisk for such a youngster in the manufacturing world. The factory is located at the corner of Dewey and Muirhead streets, East Trenton; it measures 40 x 120 feet, is one story high, on a lot considerably larger and owned by the company. The mill is well equipped and is run by a 200 HP. engine. The output is hard rubber goods, principally for electrical use. The capital authorized is \$60,000, and the officers are: Bruce Bedford president; Joseph L. Bartine vice president; C. Dudley Wilson secretary and treasurer. Frank F. Fox is superintendent.

Fred H. Conover, formerly of the United and Globe Manufacturing Cos., has taken the position of superintendent for The Combination Rubber Manufacturing Co., at Bloomfield.

A fire occurred at the plant of the Eureka Rubber Manufacturing Co. of Trenton on March 23, caused by the explosion of a benzine tank in a shed. The employees of the company tried to extinguish the flames but were unsuccessful and the city fire department was called out. The loss was not more than \$100.

Mr. Irving W. Kelly, a well known former Trentonian, now of Kelly & Williams, druggists' sundries jobbers, of Kansas City, visited this city a few days ago after making a tour of the Eastern rubber manufacturers placing orders. In an interview with the correspondent of THE INDIA RUBBER WORLD, he said the present outlook for the trade was exceptionally bright. He predicts larger sales this year than

ever before. Speaking of the jobbing trade in the West, Mr. Kelly cited his own firm as an example of the development of business. The firm was established only six years ago, but the growth of business has been so rapid that more room was required. To meet the demand a new building was recently erected with a floor space of 20,000 square feet, devoted exclusively to the druggists' sundries line.

Countess Ottilie von Faber-Castell, of the rubber firm of A. W. Faber, has been made the defendant in a \$50,000 suit for trespass brought by James S. Brant, formerly superintendent of the Faber factory, in Newark. The suit has been brought in the supreme court. Brant claims that the defendant had him forcibly ejected from a house which he occupied without paying rent, under a trade agreement with the defendant. The house referred to is in the possession of the defendant and the work of demolishing it has commenced. The countess is also the plaintiff in a \$5000 suit for trespass brought against Brant, which is still pending.

THE TEXTILE GOODS MARKET.

THERE is no appreciable change in the cotton duck market, the demand continuing unabated, except on the part of the rubber shoe trade, whose purchases have naturally been curtailed on account of stock taking. Despite unusually prompt deliveries, the mills have been unable to satisfy the requirements of the mechanical rubber goods trade, whose consumption to date exceeds the amount called for by contracts.

Cotton is being very firmly held in the South, planters showing very little disposition to sell. A certain element are holding their cotton hoping for a 15 cent market before October. It is on this account that the mills are unwilling

to contract for sales very far ahead.

The speculative market has advanced one cent a pound in three weeks, and is at this writing within 100 points of the highest price of the season. A prominent authority states that the public has been out of the market for some time, but that there is a present disposition to follow the bull leader, in which event sensational developments may be expected.

The census bureau's estimate of the 1905 cotton crop was 10,697,013 bales, allowing round bales as half bales, and including linters. For 1904 the crop was 13,697,310 bales, and for 1903 it was 10,015,721 bales. The present and prospective consumption of cotton indicates a record breaking demand in the face of extremely unfavorable weather conditions, the rain and cold weather not only ruining cotton already planted, but seriously delaying further crop preparations.

In addition to adverse weather, the labor situation in the South is regarded as serious, the labor supply being in certain sections inadequate to the making of a normal crop, which must result in the cutting down of the acreage. In other sections where conditions are less unfavorable, it is not thought that the acreage can appreciably exceed that of 1905.

THE Faultless Rubber Co. (Akron, Ohio), have now for an agency on the Pacific coast, the Gorham Rubber Co., with stores in San Francisco, Seattle, and Portland (Oregon). The Denver Rubber Co. (Denver), are also agents for them in Colorado and the middle West. Both the Gorham company and the Denver company carry a full line of the Faultless goods at all of their stores. In addition to this the Faultless company have opened an office in Chicago in the Ogden building, No. 34 Clark street, and one in New York, at No. 43 Leonard street, in the Rothschild building.

REVIEW OF THE CRUDE RUBBER MARKET.

AN advance over last month's figures is quoted on every grade of rubber covered by our list. The advance began early in the month and has been maintained throughout, the market remaining firm at the end of the period under review. Buying has at no time been particularly active, and the lessened activity of late in the rubber shoe industry led to an expectation in some quarters of a weaker market. That this result has not been realized may be attributed to the activity of other branches of the industry, to the liberal consumption of rubber in Europe, and the further fact that the bulk of the current season's output of Pará rubber has been placed on the market. From now on, until the end of summer, exports from the Amazon will be in lessened volume, and visible supplies will steadily become smaller.

Total arrivals at Pará (including Caucho) for the first nine months of the crop season have been:

	1902-03.	1903-04.	1904-05.	1905-06.
Tons.....	23,540	25,580	27,210	27,620
[a To March 28.]				

The arrivals at Pará last year in March were 5000 tons, and the smaller receipts for the same month this year—reducing materially the increase of this season over last—has also tended to keep up price levels. It now appears unlikely that the current season's crop will show any such gain over that ending June 30, 1905, as last year showed.

Following is a statement of prices of Pará grades, one year ago, one month ago, and on March 30—the current date:

PARÁ.	April 1, '05.	March 1, '06	March 30.
Islands, fine, new.....	127@128	122@123	124@125
Islands, fine, old.....	none here	none here	none here
Upriver, fine, new.....	129@130	126@127	129@130
Upriver, fine, old.....	none here	none here	130@131
Islands, coarse, new.....	74@75	73½@74	73@74
Islands, coarse, old.....	none here	none here	none here
Upriver, coarse, new.....	96@97	93½@94	94½@95
Upriver, coarse, old.....	none here	none here	none here
Caucho (Peruvian) sheet....	75@76	73@74	74@75
Caucho (Peruvian) ball....	82½@83	88@89	88@89

AFRICAN.		CENTRALS.	
Sierra Leone, 1st qual. 104	@105	Esmeralda, sausage. . .	89@90
Massai, red..... 104	@105	Guayaquil, strip.....	74@75
Benguella..... 84½@85		Nicaragua, scrap.....	88@89
Cameroon ball..... 76	@77	Panama, slab.....	67@68
Accra flake..... 24	@25	Mexican, scrap.....	88@89
Lopori ball, prime... 115	@116	Mexican, slab.....	65@66
Lopori strip, prime... 104	@105	Mangabeira, sheet....	62@72
Madagascar, pinky... 97	@98	EAST INDIAN.	
Ikelemba..... 116	@117	Assam.....	100@101
		Borneo.....	45½@49½

Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine.....	5\$700	Upriver, fine.....	7\$000
Islands, coarse.....	3\$100	Upriver, coarse.....	4\$900
Exchange, 16½¢d.			

Last Manáos advices:

Upriver, fine.....	6\$875	Upriver, coarse.....	4\$575
Exchange, 16¼¢d.			

Statistics of Para Rubber (Excluding Caucho).

NEW YORK.					
	Fine and Medium.	Coarse.	Total. 1906.	Total. 1905.	Total. 1904.
Stocks, January 31.....	217	7 =	224	157	64
Arrivals, February.....	1077	575 =	1652	1370	2527
Aggregating.....	1294	582 =	1876	1527	2501
Deliveries, February.....	943	575 =	1518	1391	2470
Stocks, February 28....	351	7	358	130	115

PARÁ.			ENGLAND.		
	1906.	1905.	1904.	1906.	1905.
Stocks, January 31.....	1400	1259	505	460	355
Arrivals, February.....	3150	3430	3680	1365	800
Aggregating.....	4610	4686	4245	1825	1155
Deliveries, February.....	3873	3876	3810	950	850
Stocks, February 28....	737	810	435	875	305

	1906.	1905.	1904.
World's visible supply, February 28.....	3685	3894	2867
Para Receipts, July 1 to February 28.	21,469	19,456	19,200
Para Receipts of Caucho, same dates.....	2845	2504	2304
Afloat from Para to United States, Feb. 28.	745	1898	903
Afloat from Para to Europe, February 28..	970	745	1024

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The next important sale at Antwerp will take place on March 23 when 615 tons will be exposed. We mention some of the more important lots, with the broker's estimation, in francs per kilogram:

51 tons Uelc stripes	francs	11 30
35 " Aruwini.....		11.80
20 " Upper Congo Yakoma.....		12.20
25 " Kasai Loanda Sankuru		10.80
12 " Congo Djuma I.....		9.50
17 " Congo Djuma II.....		8.25
10 " Congo Djuma III.....		7.00
16 " Upper Congo ball.....		12.20
19 " Mongalla small stripes		11.75
10 " red Mongalla.....		12.20

On March 16 small sale took place. Out of 15 tons only 3 tons were sold at firm prices, viz.: Upper Skoi large balls at 8.57½ francs (estimation 8.25); ditto small balls at 8.07½ francs (estimation 7.50).

C. SCHMID & CO. SUCCESEURS.

Antwerp, March 16, 1906.

[THE prices obtained at the March 23 sale were uniformly higher than the broker's estimations; reported, in fact, at an average of about 25 centimes per kilo. It is understood that the greater part of the offerings were taken for European account.]

Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers for car-load lots in cents per pound—show a decline from last month's quotations:

Old Rubber Boots and Shoes—Domestic.....	8½	@ 8¼
Do — Foreign.....	7¼	@ 7¾
Pneumatic Bicycle Tires.....	7½	@ 7¼
Solid Rubber Wagon and Carriage Tires.....	8½	@ 8¾
White Trimmed Rubber.....	10½	@ 11
Heavy Black Rubber.....	5½	@ 5½
Air Brake Hose.....	3¾	@ 3¾
Fire and Large Hose.....	2¾	@ 3
Garden Hose.....	2¼	@ 2½
Matting.....	1¼	@ 1½

ANTWERP RUBBER STATISTICS FOR JANUARY.

DETAILS.	1906.	1905.	1904.	1903.	1902.
Stocks, Jan. 1.....	735,157	541,304	610,900	658,105	414,709
Arrivals in January.....	605,029	325,081	522,259	171,860	636,243
Congo sorts.....	414,613	239,709	355,781	130,541	613,876
Other sorts.....	190,416	85,372	136,478	35,319	22,367
Aggregating.....	1,340,216	866,442	1,133,159	829,965	1,050,952
Sales in January.....	821,521	567,094	706,994	695,830	407,253
Stocks, Jan. 31.....	518,695	299,348	426,165	134,135	643,699
Arrivals since Jan 1.....	605,029	325,081	522,259	171,860	636,243
Congo sorts.....	414,613	239,709	355,781	130,541	613,876
Other sorts.....	190,416	85,372	136,478	35,319	22,367
Sales since Jan. 1.....	821,521	567,094	706,994	695,830	407,253

ANTWERP RUBBER STATISTICS FOR FEBRUARY.

DETAILS.	1906.	1905.	1904.	1903.	1902.
Stocks, Jan. 31.....	518,695	299,348	426,165	134,135	643,699
Arrivals in February.....	414,899	621,946	364,466	545,813	607,115
Congo sorts.....	338,905	496,318	299,901	473,713	587,293
Other sorts.....	75,994	125,628	73,565	72,100	19,822
Aggregating.....	933,594	921,294	790,631	679,948	1,250,814
Sales, February.....	318,906	363,894	455,541	204,410	265,994
Stocks, February 28.....	614,688	557,400	335,090	475,538	984,820
Arrivals since Jan. 1.....	1,019,928	947,027	886,725	717,673	1,243,358
Congo sorts.....	753,518	736,027	676,682	610,254	1,201,169
Other sorts.....	266,410	211,000	210,043	107,419	42,189
Sales since Jan. 1.....	1,140,427	930,988	1,162,535	900,240	673,247

London.

EDWARD TILL & Co. report stocks [March 1]:

	1906.	1905.	1904.
Pará sorts.....	—	—	—
Plantation, Ceylon and Straits.....	26	—	—
Borneo.....	45	11	16
Assam and Rangoon.....	7	2	4
Penang.....	285	120	—
Other sorts.....	191	149	207
Total.....	554	282	227
Pará sorts.....	873	304	386
Caucho.....	128	201	65
Other sorts.....	351	477	458
Total, United Kingdom.....	1906	1264	1136
Total, February.....	1539	1298	1341
Total, January.....	—	—	—
Total, December.....	1728	1507	1185

PRICES PAID DURING FEBRUARY.

	1906.	1905.	1904.
Pará, fine, hard.....	5/ 4 @ 5/ 4 3/4	5/ 3 @ 5/ 4 3/4	4 1/2 @ 4/ 6
Do soft.....	5/ 3 1/4 @ 5/ 3 1/2	5/ 0 1/2 @ 5/ 3 1/2	4/ 3 @ 4/ 5
Negroheads, scrappy 3/10 3/4 @ 4/ 1	3/ 11 @ 4/ 1	3/ 4 1/2 @ 3/ 5 1/2	3/ 4 1/2 @ 3/ 5 1/2
Do Cameta.....	3/ 3 @ 3/ 1	3/ 3 @ 3/ 3	2/ 8 @ 2/ 10 1/2
Bolivian.....	5 4 1/4 @ 5/ 4 3/4	5/ 3 @ 5/ 5	4/ 4 1/2 @ 4/ 6 1/2
Caucho, ball.....	3/ 8 1/2 @ 3/ 9	3/ 3 3/4 @ 3/ 4 1/2	3/ 2 1/4 @ 3/ 3
Do slab.....	3/ 1 @ 3/ 1 1/2	3/ 0 1/2 @ 3/ 1	2/ 9 1/2
Do tails.....	No sales	3/ 0 1/2 @ 3/ 2	No sales

MARCH 16.—The market for Paras has been quiet during the week, but very firm and closes dearer. Only a small business has been done, owing to the scarcity of sellers. Fine hard has been sold at 5s. on the spot and at 5s. 5½d. for distant delivery. Soft fine at 5s. 3¾d. @ 5s. 4d. afloat and on the spot. Negroheads quiet; Manaos 3s. 11d.; Islands 3s. 2d.; Cametas 3s. 3d. per pound values. Peruvian fine, no sales reported, but there are buyers at 5s. 4d. Sales of Ball at 3s. 9d. for April-May; scrappy in good demand at 3s. 10½d.; Slab quiet at 3s. 1½d. Medium grades in strong demand at to-day's auction, especially Madagascar and Penang. Madagascar white ball 4s. 2½d.; pinky 3s. 10½d. @ 3s. 11d.; black coated Majunga 3s. @ 3s. ¾d. Cartagena scrap 3s. 4½d. @ 3s. 6¼d.; Ecuador scrap, 3s. 7d.; white virgin sheet 3s. 9½d.

CEYLON AND STRAITS PLANTATION.

LEWIS & PEAT report sales at the March 2 auction of Ceylon dark biscuits at 6s. 1 $\frac{3}{4}$ d. [=\$1.49 $\frac{1}{2}$]; pale biscuits at the same price; fine scrap 5s. 3 $\frac{1}{4}$ d.; inferior scrap, 4s. 11d.; Straits pale sheet 6s. 1 $\frac{3}{4}$ d.; large pale biscuits 6s. 2d.; fair scrap 5s. 3 $\frac{1}{2}$ d. Ceará plantation from Ceylon very thin pale biscuits 6s. 1 $\frac{3}{4}$ d. [=\$1.49 $\frac{1}{2}$]; pale biscuits 6s. 1 $\frac{1}{2}$ d.; thin biscuits 6d.

At the March 16 auction good dark biscuits brought 6s. 3d. [=\$1.52]; scrap 5s. 3d. Ceará fine pale thin biscuits 6s. 3d. Straits and Malay States sheets as high as 6s. 3 $\frac{1}{4}$ d.; scrap 5s. 3d.; good crepe 6s. 3d. The sale to-day included 44 cases (probably 4,400 pounds) from the Vallambrosa Rubber Co., Limited, of Selangor, Federated Malay States, at 6s. 3d. @ 6s. 3 $\frac{1}{4}$ d. The company were reported some time ago to expect to be able to gather 35,000 pounds in the year ending March 31.

Liverpool.

EDMUND SCHLÜTER & Co. report (February 28):

The market during February has been quiet with only small fluctuations in the value of Pará grades. Whereas the tendency of the value of fine in warehouse and for near delivery has been in favor of buyers (owing to the accumulation of supplies out of the large January receipts) there has been throughout the month a fair demand for distant deliveries.

WORLD'S VISIBLE SUPPLY OF PARAS, FEBRUARY 28.

	1905.	1904.	1903.	1902.
Tons.....	5280	3738	3609	4701
Prices, hard fine..	5/4 $\frac{1}{4}$	5/5	4/6	3/9

LIVERPOOL STOCKS OF AFRICAN RUBBER, FEBRUARY 28.

	1905.	1904.	1903.	1902.
1900.....	298	355	1000	595
1905.....	335	536	1809	441
1904.....	346	779	1898	305

WILLIAM WRIGHT & Co. report [March 1]:

Fine Pará.—The market has been very quiet with comparatively few fluctuations, the receipts this month will be under the estimate, and the fear that this may also occur again next month has had a strengthening effect on prices, and, at the same time, rendered sellers extremely cautious about selling far ahead. The demand in the Brazils continues extremely active, and all supplies are readily disposed of at full market rates; so far there is no indication of a break in prices. Market closes steady with little offering, closing prices being, Upriver spot 5s. 4 $\frac{1}{2}$ d.; Islands, 5s. 3 $\frac{1}{2}$ d.; Upriver forward 5s. 4 $\frac{1}{2}$ d. near; 5s. 5d. distant.

Para Market.

R. O. AHLERS & Co. report [February 21]:

The demand, although steady throughout, has not been such as to maintain the firmer buoyancy of tone, and with diminishing activity prices have turned in buyers' favor. The market seems to have come to a temporary halt, due in some measure to too exacting pretensions of some of the larger holders of Upriver rubber, who by refusing to accompany the run of prices impeded the course of business. Their argument for staving off the opportunity of selling is that receipts will decrease rapidly, as the production of rubber has been disappointing in various districts and that the crop will fall short of expectations. In consequence of declining exchange and subsequent improvement in currency prices, holders have been more tractable of late.

R. O. AHLERS & Co., report [March 12]:

Since our last report our market has developed considerable activity in consequence of a sharp decline of exchange and a rising tendency in the home market, both circumstances helping sellers to obtain the high milreis price, which under last week's circumstances impeded all large transactions. The stock both in Sertão Islands is reduced now to 90 tons, for which still higher prices are asked. News arriving here from the Juruá and Upper Purús speak of an unusual early falling of water, and it is feared that many steamers will not be able to bring all the rubber down which is counted upon here, thus possibly causing an unexpected falling off in entries of March-April.

Rubber Receipts at Manaos.

DURING February and eight months of the crop season for three years [courtesy of Messrs. Scholz & Co.]:

FROM—	FEBRUARY 1905.	FEBRUARY 1904.	JULY-FEBRUARY 1906.	FEBRUARY 1905.	FEBRUARY 1904.
Rio Purus-Acre ... tons	1232	1049	1080	5978	4825
Rio Madeira.....	614	411	297	2410	2291
Rio Juruá	293	904	672	2512	2634
Rio Javary—Iquitos...	109	233	273	2393	2288
Rio Solimões	75	119	119	842	722
Rio Negro.....	128	167	91	413	506
Total.....	2451	2883	2532	14548	13266
Caucho.....	817	811	517	2931	2553
Total.....	3268	3694	3049	17479	15819

Ceylon (Plantation) Rubber Exports, 1906.

DETAILS—BY WEEKS.

POUNDS.	POUNDS.
Week ending Jan. 8.....	Week ending Feb. 19... 5,756
Week ending Jan. 15 ... 2,536	
Week ending Jan. 22 ... 1,527	Total, 1906..... 38,521
Week ending Jan. 29 ... 9,024	Total, 1905..... 8,694
Week ending Feb. 5.... 9,002	Total, 1904... 10,492
Week ending Feb. 12... 10,676	Total, 1903..... 6,799

DESTINATION.

Great Britain.....	30,833	United States.....	2,687
Germany.....	4,781	Belgium.....	220

Bordeaux.

THE market has been very firm since the middle of last month. There is an upward tendency since a few days, specially for the fine African sorts, viz.: Conakry and Soudan niggers, for which there is an increase of 20 to 30 centimes per kilogram over the prices ruling at the end of 1905. Imports at Bordeaux since February 15 have been 244 tons from West Africa and 24 tons from Central America.

SALES AND QUOTATIONS (FRANCS PER KILO).

28,250 kilos, Conakry niggers—selections 12; Boké 11.70@11.90.	
87,800 " Soudan—twists 9.85@10.65; niggers 10.55@11.	
11,970 " Ivory Coast Bassam lumps and cakes 6.90; niggers 8.90.	
" " Lahou twists 8.90@10.15; niggers 8.85@10.90.	
5,000 " Congo (Bas.) Setté Cama 4.25@7.65; Mayumba 6.50@7.85.	
8,600 " " Sangha 10.35@11.	
7,670 " Madagascar—Majunga 7.65@8.85; Tanatave 9.15@10.15	
2,800 " Colombian—scraps 9.25@10.15; slabs 8.25	
1,100 " Guayaquil—9.45@10.15.	
4,200 " Guatemala—slabs 8.15@8.35.	
3,100 " Mexican—scrap 9.45@9.65; slabs 7.45@8.10.	
510 " Manicoba - 8.85@9.65.	

ROBERT LAFON.

Bordeaux, March 12, 1906.

INCREASE OF BORDEAUX RUBBER IMPORTS.

1899.....kilos	175,589	1903.....kilos	1,113,000
1900.....	239,532	1904.....	1,182,703
1901.....	235,380	1905.....	1,330,480
1902.....	678,000		

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

March 7.—By the steamer *Polycarp*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
N. Y. Commercial Co..	198,600	31,600	116,900	18,900=	366,000
Poel & Arnold.....	136,300	65,000	132,100	47,400=	380,800
General Rubber Co..	185,500	42,200	32,400	58,000=	318,100
A. T. Morse & Co.....	185,900	30,100	63,500	6,400=	285,900
Neale & Co.....	54,100	18,300	102,200	600=	175,200
Hagemeyer & Brunn..	36,300	1,700	37,900	....=	75,900
Edmund Reeks & Co.	19,300	5,500	19,000	....=	43,800
C. P. dos Santos.....	21,500	7,300	2,600	....=	31,400
G. Amsinck & Co.....	200	....	1,300	....=	1,500
Total.....	837,700	201,700	507,900	131,300=	1,678,600

March 20.—By the steamer *Ciarense*, from Manáos and Pará:

N. Y. Commercial Co.	148,200	43,900	34,400	51,800	278,300
General Rubber Co.	101,200	32,500	48,700	13,900	196,300
Poel & Arnold	11,200	66,000	113,700	1,200	192,100
C. P. dos Santos	49,500	18,500	40,900	6,400	115,300
Neale & Co.	38,000	8,400	27,800	...	74,200
A. T. Morse & Co.	700	...	21,100	43,900	65,700
Hagemeyer & Brunn	16,600	2,200	14,100	...	32,900
Edmund Reeks & Co.	14,300	3,600	4,100	...	22,800
Lawrence Johnson & Co.	13,900	3,300	800	...	18,000
F. R. Muller & Co.	...	...	6,900	...	6,900
Arana, Bergman & Co.	...	...	...	40,000	40,000

Total..... 393,600 178,400 312,500 157,200 1,041,700

March 26.—By the steamer *Fluminense*, from Manáos and Pará:

A. T. Morse & Co.	82,700	22,400	55,500	85,000	245,600
N. Y. Commercial Co.	55,300	13,800	103,000	1,300	179,000
Poel & Arnold	7,100	8,200	81,700	24,000	141,000
Neale & Co.	31,500	6,300	56,200	3,900	97,900
General Rubber Co.	31,700	8,400	9,400	27,800	77,300
Hagemeyer & Brunn	18,000	2,500	37,200	...	57,700
Edmund Reeks & Co.	14,200	1,200	36,800	...	52,200
F. R. Muller & Co.	...	...	7,600	...	7,600
Czarnikow, McDougal Co.	5,400	1,600	...	...	7,800
Lawrence Johnson & Co.	...	...	2,700	...	2,700

Total..... 245,900 84,400 396,500 142,000 = 868,800

[NOTE.—The steamer *Dunstan* from Pará, is due at New York, April 4, with 350 tons Rubber and 70 tons Cauchou.

PARA RUBBER VIA EUROPE.

FEB. 23.—By the <i>Cedric</i> =Liverpool:	POUNDS.
Poel & Arnold (Cauchou).....	15,600
FEB. 24.—By the <i>Campania</i> =Liverpool:	
New York Commercial Co. (Fine).....	3,300
MARCH 24.—By the <i>Bovic</i> =Liverpool:	
Poel & Arnold (Coarse).....	5,500

OTHER ARRIVALS AT NEW YORK**CENTRALS.**

FEB. 24.—By the <i>Finance</i> =Colon:	POUNDS.
Hirzel, Feltman & Co.....	18,000
Mann & Emdon.....	3,300 21,300
FEB. 24.—By the <i>Maine</i> =London:	
General Rubber Co.....	4,500
FEB. 24.—By the <i>Yucatan</i> =Mexico:	
Harburger & Stack.....	2,500
H. Marquardt & Co.....	2,500
Graham, Hinkley & Co.....	1,500
Thebaud Brothers.....	500 7,000
FEB. 26.—By the <i>Victoria</i> =Liverpool:	
Poel & Arnold.....	7,000
George A. Alden & Co.....	7,000 14,000
FEB. 28.—By the <i>Siberia</i> =Colombia:	
Kunhardt & Co.....	4,000
Isaac Brandon & Bros.....	2,000
Pedro Lopez.....	2,000
Roldan & Van Sickle.....	1,000
Aramburo & Sons.....	1,000
John Boyd & Co.....	500
A. D. Strauss & Co.....	500 11,000
FEB. 28.—By the <i>Civic</i> =Liverpool:	
George A. Alden & Co.....	20,000
MAR. 1.—By the <i>Teutonic</i> =Liverpool:	
George A. Alden & Co.....	40,000
MAR. 2.—By the <i>Colorado</i> =Mobile:	
A. T. Morse & Co.....	20,000
MAR. 2.—By the <i>Orinoco</i> =Greytown:	
G. Amsinck & Co.....	5,000
E. B. Stout.....	5,000
J. A. Medina Co.....	4,000
Eggers & Heinlein.....	3,500
Meyer Heint.....	2,000
Wesels & Kulemkap.....	2,500
Aramburo & Sons.....	1,500
Silva Bussenus & Co.....	1,500
Andreas & Co.....	1,500
Seahz & Co.....	1,500 30,300
MAR. 3.—By the <i>Esperanza</i> =Mexico:	
Harburger & Stack.....	3,000
E. Steiger & Co.....	2,500
E. N. Tabbals Co.....	500
American Trading Co.....	500 6,500
MAR. 5.—By the <i>Advance</i> =Colon:	
Hirzel, Feltman & Co.....	10,500
International Sewing Machine Co.....	1,500
George A. Alden & Co.....	1,500 19,500
MAR. 5.—By the <i>Venetia</i> =Greytown:	
E. B. Stout.....	5,000
G. Amsinck & Co.....	5,000
W. Louiza & Co.....	1,000
A. Rosenthal Sons.....	1,000
H. W. Peabody & Co.....	1,000 13,000
MAR. 5.—By the <i>Matanzas</i> =Tampico:	
New York Commercial Co.....	28,000
Edward Maurer.....	12,000
Graham, Hinkley & Co.....	2,500 42,500

CENTRALS—Continued.

MAR. 6.—By the <i>Prins Aug. H'm.</i> =Colombia:	
American Trading Co.....	2,000
Isaac Brandon & Bros.....	2,500
Joaquin Ferro.....	1,500
A. Held.....	1,000
G. Amsinck & Co.....	1,000
R. Fabien & Co.....	500
A. D. Strauss & Co.....	500 9,000
MAR. 7.—By the <i>Rio Grande</i> =Mobile:	
A. T. Morse & Co.....	2,000
Manhattan Rubber Mfg. Co.....	1,000
Eggers & Heinlein.....	500
Barling & DeLeon.....	500 4,000
MAR. 10.—By the <i>Santa</i> =Tampico:	
Continental & Mexico Co.....	7,000
Fred Probst & Co.....	1,000
Graham, Hinkley & Co.....	700
L. N. Chemedon & Co.....	500 9,200
MAR. 12.—By the <i>Panama</i> =Colon:	
Hirzel, Feltman & Co.....	10,500
Roldan & Van Sickle.....	5,000
G. Amsinck & Co.....	4,000
Piza, Nephews & Co.....	2,000
Mann & Emdon.....	2,500
Dumarest Bros. & Co.....	2,500
A. Santos & Co.....	2,500
Lawrence Johnson & Co.....	1,500 30,500
MAR. 12.—By the <i>Titian</i> =Bahia:	
Hirsch & Kaiser.....	30,000
J. H. Rossbach & Bros.....	13,000
A. D. Hitch & Co.....	11,000
Lawrence Johnson & Co.....	3,000
American Commercial Co.....	3,000 60,000
MAR. 14.—By the <i>Bleucher</i> =Hamburg:	
Rubber Trading Co.....	18,000
General Rubber Co.....	11,500 29,500
MAR. 15.—By the <i>Proteus</i> =New Orleans:	
A. T. Morse & Co.....	2,000
Manhattan Rubber Mfg. Co.....	1,500
G. Amsinck & Co.....	1,500 5,000
MAR. 15.—By the <i>City Washington</i> =Tampico:	
Edward Maurer.....	45,000
New York Commercial Co.....	4,000 49,000
MAR. 15.—By the <i>Tagus</i> =Caribbean:	
G. Amsinck & Co.....	2,500
A. Held.....	2,000
A. M. Capens Sons.....	2,000
Roldan & Van Sickle.....	1,000
Seanz & Co.....	800
Eggers & Heinlein.....	700
Mecke & Co.....	500
Isaac Brandon & Bros.....	500 10,500
MAR. 16.—By the <i>Armenian</i> =Liverpool:	
Poel & Arnold.....	11,500
MAR. 17.—By the <i>Seguana</i> =Mexico:	
E. Steiger & Co.....	1,500
Harburger & Stack.....	5,000
H. Marquardt & Co.....	2,500
Lanman & Kemp.....	500 10,000
MAR. 19.—By the <i>Alianza</i> =Colon:	
Hirzel, Feltman & Co.....	5,000
G. Amsinck & Co.....	4,500
Central American Commercial Co.....	1,000
R. G. Barthold.....	1,000
Lawrence Johnson & Co.....	500 12,000
MAR. 20.—By the <i>Alleghany</i> =Colombia:	
Isaac Brandon & Bros.....	3,000
Kunhardt & Co.....	1,500
A. A. Lindo & Co.....	1,000
Roldan & Van Sickle.....	1,000
G. Amsinck & Co.....	500
American Trading Co.....	700 8,000

CENTRALS—Continued.

MAR. 21.—By the <i>Sabine</i> =Mobile:	
A. N. Rottolz & Co.....	2,600
MAR. 23.—By the <i>Finance</i> =Colon:	
Hirzel, Feltman & Co.....	10,000
Mann & Emdon.....	9,000
De Sola & Pardo.....	2,500
F. Rosenstein & Co.....	2,000
Andean Trading Co.....	900
Barling & De Leon.....	500 24,900
MAR. 24.—By the <i>Bovic</i> =Liverpool:	
Poel & Arnold.....	22,500
George A. Alden & Co.....	1,500 24,000
MAR. 24.—By the <i>Yucatan</i> =Mexico:	
Harburger & Stack.....	3,500
E. Steiger & Co.....	2,000
Graham, Hinkley & Co.....	2,500
Joseph Ware.....	500
E. N. Tabbals & Co.....	500 9,000

AFRICANS.

FEB. 23.—By the <i>Cedric</i> =Liverpool:	POUNDS.
George A. Alden & Co.....	25,000
Poel & Arnold.....	12,500 37,500
FEB. 26.—By the <i>La Touraine</i> =Havre:	
George A. Alden & Co.....	60,000
A. T. Morse & Co.....	5,000 65,000
FEB. 26.—By the <i>Victorian</i> =Liverpool:	
General Rubber Co.....	56,000
George A. Alden & Co.....	40,000
Poel & Arnold.....	45,000
A. T. Morse & Co.....	10,000 157,000
FEB. 27.—By the <i>Finland</i> =Antwerp:	
A. T. Morse & Co.....	4,000
FEB. 28.—By the <i>Civic</i> =Liverpool:	
George A. Alden & Co.....	13,500
Poel & Arnold.....	9,000
Rubber Trading Co.....	4,500 27,000
MAR. 1.—By the <i>Teutonic</i> =Liverpool:	
George A. Alden & Co.....	86,000
A. T. Morse & Co.....	23,000
General Rubber Co.....	15,000
A. W. Brunn.....	13,000
Poel & Arnold.....	13,000
Rubber Trading Co.....	14,000 161,000
MAR. 2.—By the <i>Pennsylvania</i> =Hamburg:	
A. T. Morse & Co.....	40,000
Rubber Trading Co.....	6,000
Earle Brothers.....	2,000 48,000
MAR. 5.—By the <i>Carmania</i> =Liverpool:	
George A. Alden & Co.....	28,000
A. W. Brunn.....	3,000
Poel & Arnold.....	2,500 33,500
MAR. 6.—By the <i>Vaderland</i> =Antwerp:	
George A. Alden & Co.....	147,000
A. T. Morse & Co.....	4,000
Joseph Cantor.....	18,000 169,000
MAR. 9.—By the <i>Baltic</i> =Liverpool:	
General Rubber Co.....	35,000
George A. Alden & Co.....	5,000 40,000
MAR. 10.—By the <i>La Touraine</i> =Havre:	
George A. Alden & Co.....	9,000
Henry A. Gould Co.....	7,000 16,000
MAR. 13.—By the <i>Kroonland</i> =Antwerp:	
Joseph Cantor.....	20,000
A. T. Morse & Co.....	15,000 35,000
MAR. 14.—By the <i>Bleucher</i> =Hamburg:	
A. T. Morse & Co.....	8,000
George A. Alden & Co.....	5,500
Poel & Arnold.....	3,500 17,000

AFRICANS—Continued.

MAR. 17.—By the <i>Armenian</i> =Liverpool:	
George A. Alden & Co.	45,000
Poel & Arnold	30,000
General Rubber Co.	44,500
A. T. Morse & Co.	5,500
Earle Brothers	3,500
A. W. Brumm	2,500 131,000
MAR. 1.—By the <i>Peninsular</i> =Lisbon:	
General Rubber Co.	115,000
MAR. 17.—By the <i>Umbria</i> =Liverpool:	
George A. Alden & Co.	22,000
MAR. 21.—By the <i>Zeland</i> =Antwerp:	
General Electric Co.	9,000
A. W. Brumm	11,500 20,500
MAR. 23.—By the <i>Cedric</i> =Liverpool:	
George A. Alden & Co.	65,000
Poel & Arnold	40,000
A. T. Morse & Co.	20,000
General Rubber Co.	11,500 136,500
MAR. 24.—By the <i>Borg</i> =Liverpool:	
Poel & Arnold	45,000
A. T. Morse & Co.	25,000
George A. Alden & Co.	5,000
A. W. Brumm	7,000 82,000

EAST INDIAN.

FEB. 25.—By the <i>Marine</i> =London:	
George A. Alden & Co.	22,500
Rubber Trading Co.	2,500 25,000
FEB. 26.—By the <i>Minnehaha</i> =London:	
Hagemeyer & Brumm	5,500
C. Von Postau & Co.	2,500 8,000
FEB. 26.—By the <i>Ghazee</i> =Singapore:	
Heabler & Co.	22,500
George A. Alden & Co.	11,500
Poel & Arnold	15,000
Pierre T. Betts	25,000
A. W. Brumm	15,000
Winter & Smillie	10,000 94,000
MAR. 7.—By the <i>Minneapolis</i> =London:	
A. T. Morse & Co.	6,500
George A. Alden & Co.	4,500 11,000
MAR. 9.—By the <i>Indrani</i> =Singapore:	
Heabler & Co.	4,000
J. A. Paul & Co.	5,500
Winter & Smillie	5,500 15,000
MAR. 22.—By the <i>Mesaba</i> =London:	
A. T. Morse & Co.	13,500
George A. Alden & Co.	6,500
H. W. Peabody & Co.	2,500
Poel & Arnold	1,500 24,000

EAST INDIAN.—Continued.

MAR. 23.—By the <i>Schoenfels</i> =Colombo:	
George A. Alden & Co.	1,500
A. T. Morse & Co.	1,000 2,500
GUTTA-JELUTONG.	
FEB. 26.—By the <i>Ghazee</i> =Singapore:	
Heabler & Co.	250,000
L. Littlejohn & Co.	225,000
George A. Alden & Co.	100,000
Poel & Arnold	135,000 765,000
MAR. 9.—By the <i>Indrani</i> =Singapore:	
Heabler & Co.	750,000
L. Littlejohn & Co.	225,000
George A. Alden & Co.	225,000
Pierre T. Betts	35,000 1,235,000
GUTTA-PERCHA AND BALATA.	
FEB. 26.—By the <i>Ghazee</i> =Singapore:	
Poel & Arnold	5,500
MAR. 1.—By the <i>Kaiser Wilhelm</i> =Bremen:	
In Transit	21,000
MAR. 5.—By the <i>La Gascoyne</i> =Havre:	
George A. Alden & Co.	4,500
MAR. 9.—By the <i>Indrani</i> =Singapore:	
J. A. Paul & Co.	5,500
BALATA.	
FEB. 26.—By the <i>Maracas</i> =Bolívar:	
Middleton & Co.	1,500
MAR. 1.—By the <i>British King</i> =Antwerp:	
C. P. dos Santos	4,500
MAR. 21.—By the <i>Statendam</i> =Rotterdam:	
Earle Brothers	15,500
MAR. 22.—By the <i>Mesaba</i> =London:	
George A. Alden & Co.	11,500
MAR. 24.—By the <i>Prins William</i> =Lucerne:	
R. B. Masquita	1,000

CUSTOM HOUSE STATISTICS

PORT OF NEW YORK—FEBRUARY.

Imports:	Pounds.	Value.
India-rubber	6,470,704	\$5,149,986
Gutta-percha	53,355	19,401
Gutta-jelutong (Pontianak)	1,245,802	44,415
Total	7,769,861	\$5,213,802

Exports:

India-rubber	49,725	\$ 36,153
Reclaimed rubber	64,047	9,818
Rubber scrap imported	982,867	\$ 46,727

BOSTON ARRIVALS.

	POUNDS.
JAN. 2.—By the <i>Saxonia</i> =Liverpool:	
George A. Alden & Co.—Central	3 779
JAN. 2.—By the <i>Geogian</i> =London:	
George A. Alden & Co.—East Indian	3,237
JAN. 3.—By the <i>Sagamore</i> =Liverpool:	
George A. Alden & Co.—Central	7,339
JAN. 3.—By the <i>Sagamore</i> =Liverpool:	
Poel & Arnold—African	10,915
JAN. 5.—By the <i>Cestrian</i> =Liverpool:	
George A. Alden & Co.—African	3,199
JAN. 8.—By the <i>Sylvanian</i> =Liverpool:	
George A. Alden & Co.—African	6 691
JAN. 9.—By the <i>Southwark</i> =Antwerp:	
George A. Alden & Co.—African	9,303
JAN. 9.—By the <i>Cymric</i> =Liverpool:	
Poel & Arnold—African	1,533
JAN. 10.—By the <i>Devonian</i> =Liverpool:	
George A. Alden & Co.—Coarse Pará	47,581
JAN. 15.—By the <i>Philadelphian</i> =London:	
Poel & Arnold—Central	71,849
JAN. 16.—By the <i>Philadelphian</i> =London:	
George A. Alden & Co.—East Indian	2,085
JAN. 16.—By the <i>Devonian</i> =Liverpool:	
George A. Alden & Co.—African	9,028
JAN. 23.—By the <i>Artemisia</i> =Hamburg:	
George A. Alden & Co.—African	7,272
Poel & Arnold—African	12,624 19,896
JAN. 27.—By the <i>Anglian</i> =London:	
George A. Alden & Co.—East Indian	715
JAN. 29.—By the <i>Oakmore</i> =Rotterdam:	
George A. Alden & Co.—African	13,244
JAN. 29.—By the <i>Sachem</i> =Liverpool:	
Poel & Arnold—African	6,204
Total	216,598

[Value, \$176,767]

OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.				GREAT BRITAIN.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
January, 1906	6,458,513	403,846	6,049,667	January, 1906	4,221,168	3,368,512	852,656
January, 1905	7,418,006	214,204	7,203,712	January, 1905	5,160,176	3,107,552	2,052,624
January, 1904	4,982,409	235,497	4,746,911	January, 1904	4,628,064	3,225,046	1,403,024
January, 1903	5,881,341	191,006	5,690,335	January, 1903	5,278,784	4,229,344	1,049,440
January, 1902	6,273,939	172,106	6,101,833	January, 1902	4,702,208	2,995,200	1,737,008
GERMANY.				BELGIUM.*			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
January, 1906	4,221,140	1,218,580	3,002,560	January, 1906	2,048,757	651,649	1,397,108
January, 1905	3,427,820	1,242,120	2,185,700	January, 1905	1,346,376	560,859	785,517
January, 1904	2,832,500	606,300	2,136,200	January, 1904	1,379,356	805,228	484,128
January, 1903	3,012,020	1,161,360	1,850,660	January, 1903	1,252,405	275,112	977,293
January, 1902	2,581,920	1,056,000	1,525,920	January, 1902	1,844,141	741,541	1,102,600
FRANCE.*				AUSTRIA-HUNGARY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
January, 1906	2,488,640	1,249,380	1,239,260	January, 1906	249,480	440	249,040
January, 1905	2,220,020	531,300	1,688,720	January, 1905	231,660	660	231,000
January, 1904	805,860	728,800	77,060	January, 1904	243,100	2,640	240,460
January, 1903	1,021,020	873,400	147,620	January, 1903	260,920	220	260,700
January, 1902	1,602,480	447,300	1,155,180	January, 1902	223,960	220	223,740

NOTE.—German statistics include Gutta-Percha, Balata, old (waste) rubber, and substitutes. British figures include old rubber. French, Austrian, and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

* General Commerce.

† Special Commerce.

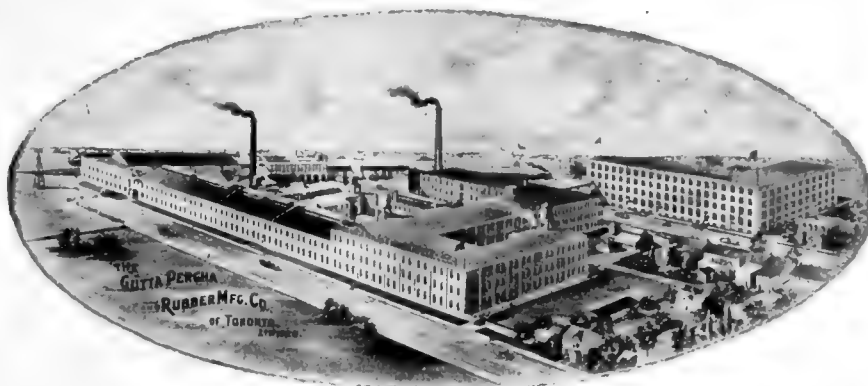
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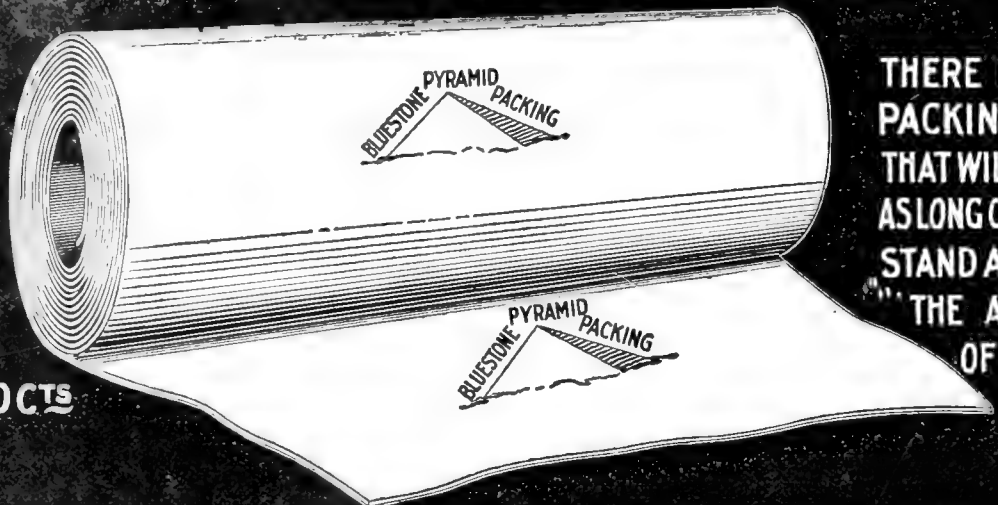
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THE INDIA RUBBER WORLD appears this month from new offices—No. 35 West Twenty-first street, New York—the former premises, in Nassau street, having become outgrown. The change has been made somewhat regretfully, on account of the old offices having been so often visited, for years past, by members of the trade. These are assured of the same welcome at our new address, which we trust they will all bear in mind.

SAN FRANCISCO NOT CRUSHED.

THE disaster which a fortnight ago befell the principal American city on the western seaboard was so great that it has not yet been possible to figure out the losses in life and property. But instead of being dismayed, the people of stricken San Francisco already are planning and working for the rebuilding of their city, with a measure of energy and courage and hopefulness never surpassed at any period in their past.

Work suddenly has become a necessity for hundreds of thousands—no matter what may have prompted them to work before, or whether they worked at all. And while their future must rest upon their own efforts, the great, prosperous, growing nation, as a whole, will give its moral support and business coöperation, with the result of hastening the building of a greater San Francisco than before.

The generosity with which the whole country has contributed to the immediate relief of the city in ashes illustrates the solidarity of the nation, in a way most promising for our future moral and material growth. And this generosity, together with the offers of aid from abroad, proves that the spirit of human charity is still worldwide, and not growing narrower.

To conclude with a wholly practical view of the San Francisco situation, it is safe to say that, instead of the trade of the country suffering in consequence, every line of production will now be larger. To rebuild a great city, even if done slowly, requires a vast quantity and a vaster variety of materials, and these, for the most part, must be supplied, not out of store, but from new production.

THE CEYLON RUBBER SHOW.

THE coming rubber exhibition at Peradeniya, in the first place, serves to illustrate the intelligent care devoted by the British colonial administrations to the development of the resources under their care. It is appropriate that this first important rubber cultural exhibition in the world should be held under government auspices, since the planting of rubber in the Far East was distinctly the outgrowth of governmental initiation, dating from the time when her Majesty's secretary of state for India commissioned Mr. James Collins to write his "Report on the Caoutchouc of Commerce." The

first suggestion of the coming show was from private sources—a local affair, for a day— but the government took the matter in hand, proposed a broader program, to cover a fortnight, and is assuming the cost.

The real development of the planting interest, of course, has resulted from the enterprise of the planters themselves, who have had the good judgment to work in concert, through their associations, in studying problems connected with rubber, just as they did in the pioneer days of tea in Ceylon. But while the planters have not depended upon the government, the latter has sought in many ways to promote the interests of the planters. On the whole, the situation in Ceylon is one which might well be desired in many other localities.

As for the exhibition, it can hardly fail to give a healthful impetus to the rubber planting interest. It will make more definite the world's knowledge of what has been done, and the work in progress in relation to rubber. It will make possible a fuller comparison than has yet been made of the products of various methods of curing rubber. And in general it ought to serve a valuable purpose as a clearing house for experience among rubber planters, in a broader way than the local planters' associations provide for. But we doubt whether many rubber manufacturers will respond to Dr. Willis's invitation to make exhibits at Peradeniya, though all who use crude rubber might find it to their interest to attend the exhibition, or else become informed as to its results.

A NUMBER OF MEXICAN RUBBER PLANTATIONS, according to reports recently made public, by the owning companies, are in a thriving condition, apparently having made all the progress in development to have been expected by this time. Some of the planters evidently feel that there is now nothing to do but to keep them cared for and to wait for the trees to reach a tappable size. But what is of chief importance is the study of tapping methods and the treatment of the latex, in order that, when the productive period does arrive, the rubber may be handled practically and economically.

IN THE MATTER OF ENTERPRISE in the way of resuming business in San Francisco, we take it that the rubber trade will compare favorably with any other interest which suffered from the late disaster.

RUBBER TAPPING AT "RUBIO."

THE Tehuantepec Rubber Culture Co. (New York) have distributed to their shareholders the report of the latest annual inspection of their plantation "Rubio," in Mexico, made by a representative of the shareholders, the inspector this year being Mr. W. H. Hyde, of Cleveland, Ohio. His inspection began on February 4. The details given confirm those in former reports, except that the trees are larger in size, and further improvements have been made on the property. The company have finished planting and the energies of the management are devoted to keeping the young rubber trees in the best possible condition.

Anticipating that the problem of economically tapping a

million rubber trees will call for much study, the company have leased a plantation about 20 miles from Minatitlan, on which are about 800 rubber trees from 9 to 18 years old, and a competent man has been engaged to undertake regular work in experimental tapping, in which will be embraced "all known and proposed methods and processes" for tapping the trees and treating the latex. During the year General Manager Luther visited important rubber regions in Panama, Columbia, Peru, and Bolivia, and saw the systematic exploitation of wild rubber, both *Castilloa* and *Hevea*. In a statement which he prepared for inclusion in Mr. Hyde's report Mr. Luther says of the situation in South America: "Taking all the difficulties into consideration and the evident impossibility that the product can increase, I returned with renewed and better fortified confidence in our cultivation business." He adds:

I expect to prove in experiments about to be begun that by applying the careful gradual system of tapping practiced on the *Hevea* trees we can count on at least twice as large a product from this sort of rubber than the *Hevea*, and that we will produce at least twice as much over a period as has customarily been gotten from the wild *Castilloa* trees, and this of course at a very much reduced expense.

No more frame, tiled roof houses will be built in the camps, as the natives prefer the palm houses, which, in the course of time, prove to be practically as economical as the more modern structures. Corn was planted two years for marking the hills of the young rubber trees, but as no more rubber is to be planted, the future requirements of corn will be purchased in the neighborhood.

THE EDITOR'S BOOK TABLE.

ASBESTOS: ITS OCCURRENCE, EXPLOITATION AND USES. BY FRITZ Cirkel, M.E. (Mines Branch—Department of the Interior.) Ottawa, Canada: 1905. [3 vo. Pp. xiv + 169 + 19 plates and two maps.]

THE second of the important series of publications on the economic minerals of Canada to be issued under the direction of the government superintendent of mines, relates to Asbestos, the production of which of late years has assumed such a prominent place among the mining industries of Canada. As is generally known, that country is to-day the largest producer of asbestos, and the quality is of a superior grade, in addition to which the deposits are of great extent. The Canadian production increased from 380 short tons in 1880 to 35,068 in 1904, besides which is to be noted in the latter year 13,087 tons of asbestic. The largest customer by far for Canadian asbestos is the United States, to which 24,980 tons were exported in 1904, against 4375 tons to Great Britain, 1984 to Germany, 1354 to Belgium, and 1154 to France. Mr. Cirkel's admirably prepared report deals with geology, the characteristics of asbestos, the details of mining, including an analysis of costs, and a chapter on the Commercial Applications of Asbestos, in which latter are mentions of various purposes for which asbestos is used in connection with India-rubber. Not only is this true, but the substance is of much interest to the rubber trade for the reason that it finds many applications in which it comes in competition with rubber goods. In both America and Europe asbestos finds a considerable market in the rubber industry. A number of illustrations occur in the book.

REPORT upon a Visit to Great Britain to Investigate the India-Rubber Industry in its Relation to the Growth and Preparation of Raw India-Rubber in the Malay Peninsula. By P. J. Burgess. *Agricultural Bulletin*, Singapore IV 12 (Dec '05). Pp. 458 472.

THE SAN FRANCISCO DISASTER.

JUST after 5 o'clock on the morning of Wednesday, April 18, western California was shaken by a series of earthquakes that exceeded in destructiveness any seismic disturbances ever felt on this continent. The greater part of the business section of San Francisco was leveled, and about thirty smaller cities and towns on or near the coast were damaged, some being completely destroyed. The loss of life can never be known, but a conservative estimate places the number of persons killed at 1000 in San Francisco and as many more in other parts of the state. Had the earthquakes occurred a few hours later, when the business of the city was in full swing, the loss of life must have been counted in thousands instead of hundreds.

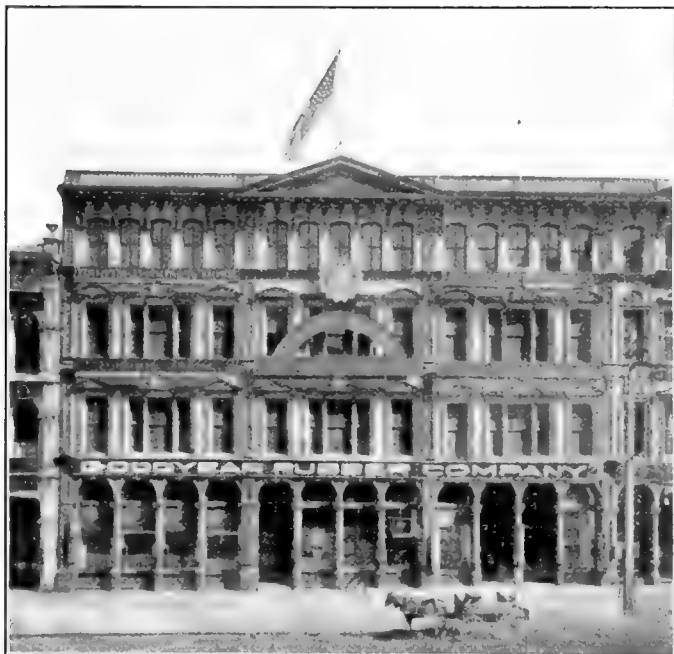
That fire should follow the earthquakes was only what might have been expected. Flames broke out on all sides and for four days swept through the ruined business section of San Francisco, then spread to the residential districts until the greater part of the city had been wiped out and more than 300,000 people rendered homeless. People who had been wealthy, or well-to-do, were reduced to poverty and driven to seek shelter in the public parks, sharing the common lot with those who had already been living in want. Fortunes were wiped out almost in an instant.

The amount of loss in property is estimated at from \$350,000,000 to \$450,000,000. The suffering and destitution resulting is past comprehension. It stands to the credit of the nation, and of the world at large, for that matter, that there has never been such a prompt and generous and spontaneous response to appeals for aid as are recorded in this instance. There is every indication that by the time these words are printed, the relief fund, from all sources, will exceed \$30,000,000.

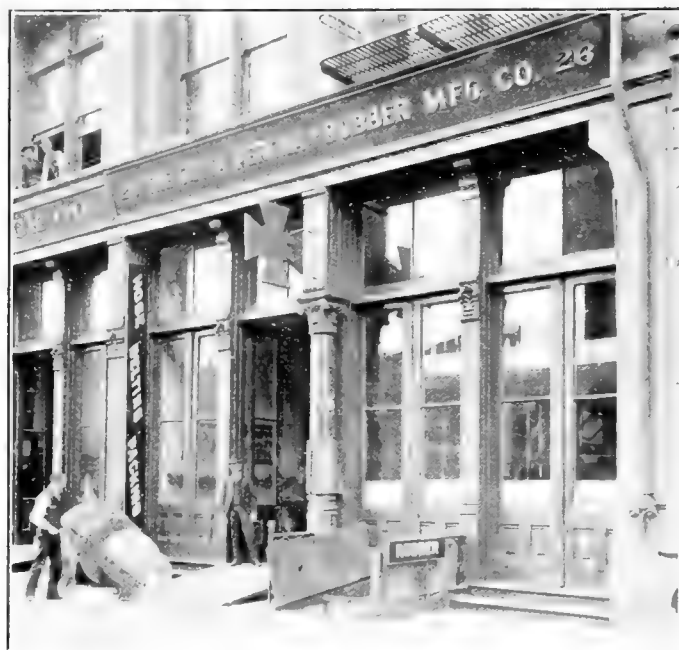
There has been no note of despondency on the part of the people of ruined San Francisco. Every indication points to the speedy rebuilding of the city, on a grander scale, with more substantial structures, and business men in all lines are planning the resumption of business with the briefest possible interruption.

The larger part of the rubber business on the Pacific coast was centered in San Francisco, in branch houses or agencies of Eastern manufacturers, though recently the manufacture of rubber goods has been introduced there. Every rubber house appears to have gone down in the general ruin, though the interrupted communication with San Francisco has interfered with getting details.

The Goodyear Rubber Co. (New York) occupied a four story building, Nos. 573-583 Market street, which is now in ruins. The company's Pacific coast business is covered by a local corporation, by the same name, the president and manager of which, Mr. Richard H. Pease, was in New York at the time of the catastrophe, starting West the next day. Mr. Pease was not able to give the value of the stock in hand, but believed it considerably in excess of \$85,000, the amount of insurance carried. Mr. Pease is the Pacific coast representative, at the same address, of the United States Rubber Co. At the New York office of the latter company it was stated that their stock in San Francisco was worth about \$100,000, fully covered by insurance. The Goodyear house at once planned to resume business in Oakland (across the bay from San Francisco), with the idea of becoming reestablished at or near their old site as soon as a new building can be constructed. Mr. Pease has been in charge of the San Francisco store since 1869. It was established in 1864, the business requiring two trips overland, in the stage coach



STORE OF THE GOODYEAR RUBBER CO.—AGENCY OF THE UNITED STATES RUBBER CO.—DESTROYED BY FIRE.



STORE OF THE GUTTA PERCHA AND RUBBER MANUFACTURING CO., DESTROYED BY FIRE.

days, by Mr. Frederick M. Shepard, founder of and still president of the Goodyear Rubber Co. (New York).

The New York Belting and Packing Co., Limited, at No. 605 Market street, carried a stock of about \$150,000, well covered by insurance in foreign companies. The loss of the Hartford Rubber Works Co. is estimated at \$50,000; that of Morgan & Wright at \$50,000, and the G. & J. Tire Co. at \$40,000—all fully covered by insurance. The four companies named in this paragraph have united in securing a large warehouse in Oakland, where they will carry on business until suitable quarters can be provided in San Francisco.

The San Francisco agency of The Peerless Rubber Manufacturing Co. (New York) was held by the large hardware firm of Dunham, Carrigan & Hayden. They carried a large stock of rubber goods, and would have to stand the loss if their insurance did not cover; the Peerless company lose nothing by the fire. The hardware firm are doing business in Oakland until they can resume at their old stand.



INTERIOR OF STORE OF THE NEW YORK BELTING AND PACKING CO., DESTROYED BY FIRE.

The Gutta Percha and Rubber Manufacturing Co. (New York), following the recent visit of Mr. A. Spadone, president of the company, to San Francisco, had occupied new premises at No. 26 Fremont street. The building is in ruins, involving a loss on stock of about \$85,000, well covered by insurance. The company have opened temporary quarters at Oakland.

Revere Rubber Co. (Boston) advise THE INDIA RUBBER WORLD: "This company has had a store in San Francisco for many years, under the management of Mr. Aubrey T. Dunbar. Mr. Dunbar telegraphed us Friday morning [April 20] that he was safe and well. We have no definite information at this time, but understand that the store was completely destroyed. We are fully insured, and will be ready for business again as soon as we can obtain proper quarters. We also have a branch store at Portland, Oregon, which will be the headquarters for our Pacific coast business until we can locate in San Francisco or its vicinity."

Boston Belting Co. (Boston) were represented in San Francisco by the Pacific Coast Rubber Co.—H. C. Norton vice president and manager—Nos. 453-455 Mission street. The building and contents were lost. It is supposed in the East that the building withstood the earthquake shock and was

destroyed by fire. Boston Belting Co. report: "We had a fair size consignment account there, and had it insured in a good strong foreign company. We usually carry about \$30,000 net of stock, this is, our cost."

Apsley Rubber Co. (Hudson, Massachusetts) report: "The only account we had in San Francisco was with the Pacific Coast Rubber Co. In no connection with this house other than that we have sold them a line of our goods."

Boston Woven Hose and Rubber Co. (Boston) reported April 24: "We have received no details of the San Francisco catastrophe with particular reference to our interests there. Our branch, which was located at Nos. 14-16 Fremont street, was conducted under the company's name, with Mr. J. V. Selby as manager."

The San Francisco branch of the Fisk Rubber Co. (Chicopee Falls, Massachusetts) at No. 267 Golden Gate avenue, was burned out on April 13, in a fire caused by the upsetting of a gasoline can, and the company were looking for new quarters when the earthquake came.

The Hood Rubber Co. on April 24 circulated among the 2800 employes at their East Watertown factory, envelopes and slips for subscriptions to the San Francisco relief fund.

The Hartford Rubber Works Co. received a telegram on April 23 announcing the complete loss of their San Francisco branch, and in reply telegraphed orders for the transfer of the office staff to Los Angeles, California, where the headquarters of their Pacific coast business will be maintained until further notice.

FROM OUR AKRON CORRESPONDENT

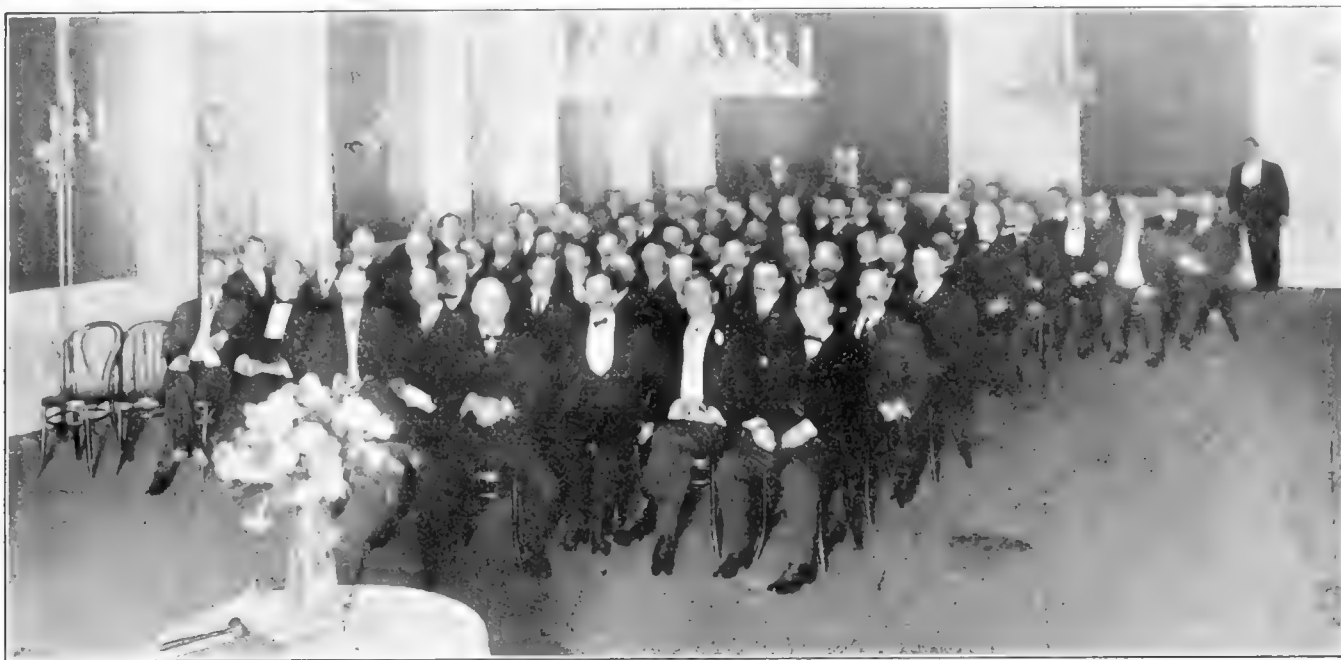
AKRON rubber manufacturing companies lost probably \$250,000 as the result of the earthquake and conflagration in San Francisco. Officials of The Diamond Rubber Co., The B. F. Goodrich Co., and the Goodyear Tire and Rubber Co. feel confident that their branch houses have been wiped out. The two former companies have their branch houses located on Mission street, where the destruction was most complete.

The Diamond Rubber Co.'s branch house was located at No. 807 Mission street, in charge of C. E. Mathewson. The company also maintained a small manufacturing plant in San Francisco to meet the needs of the coast, and while the building did not belong to the company, the machinery and equipment destroyed was probably worth \$75,000. The value of the stock on hand in the branch house was about the same amount, both stock and plant being covered by insurance.

The stock and goods of The B. F. Goodrich Co., located in the offices and warerooms of the Gorham Rubber Co., No. 392 Mission street, which suffered a total loss, are estimated at \$100,000. This is covered by insurance. C. B. Raymond, secretary of the company, stated that no time would be lost in shipping new goods to the stricken city and preparing to reopen and maintain a branch there.

The loss of the Goodyear Tire and Rubber Co. will not exceed \$1000. The company was represented by the George P. Moore Co. Mr. George P. Moore arrived in Akron on April 23, and after being in consultation with the Goodyear company officials, left for the west. The loss of the George P. Moore Co., is estimated at over \$30,000. Mr. Moore's firm are manufacturers, jobbers, and importers of automobile specialties, and were located at Nos. 592-596 Golden Gate avenue in San Francisco, with a branch house in Los Angeles.

All the business referred to above will be continued, plans already being under consideration for speedy resumption.



ANNUAL MEETING OF THE NEW ENGLAND RUBBER CLUB.

THE annual meeting of the New England Rubber Club, for the election of officers, was held at the American House, Boston, on the evening of April 16. President John H. Flint called the meeting to order and those present listened to the following reports, which were accepted and placed on file:

SECRETARY'S REPORT.

The New England Rubber Club, just entering upon the seventh year of its existence, is in so flourishing a condition that its members may well congratulate themselves. With no debts, no feuds, no responsibilities, except those embracing good fellowship; with a membership numbering 214, its horizon shows no clouds.

During the year past the three entertainments, the Smoke Talk at the American House, the Summer Outing at the Country Club, and the Midwinter Dinner, were all well attended, and fully as enjoyable as any preceding series.

With no troubles to report, or explain; with only the routine of business covered by the reports of other officers, the Secretary's report is of necessity brief. In closing, however, that officer feels constrained to express his regret that Messrs George P. Whitmore and Elston E. Wadbrook, Treasurer and Assistant Secretary, are no longer to grace the offices they have so long filled with conspicuous ability. It is gratifying to know, however, that they will still be with us for counsel, and that lack of time and not of interest in the Club alone forces their withdrawal from office. Respectfully submitted,

HENRY C. PEARSON, Secretary

TREASURER'S REPORT.

Receipts.

Bank Balance April 17, 1905	\$ 673.31
For Initiation.....	\$ 70.00
For Dues.....	1,066.80
For Assessments.....	1,043.15
Total	\$2,853.26

Disbursements.	
Dinners.....	\$1,973.12
Sundries as per vouchers	93.80
Bank Balance and Cash on hand April 16 1906	786.34
Total	\$2,853.26

GEORGE P. WHITMORE, Treasurer.

BOSTON, MASS., April 16, 1906.

To the President and Members of the
New England Rubber Club, Boston, Mass.

GENTLEMEN: We hereby certify that we have thoroughly audited the Treasurer's books for the year ending April 16, 1906, and that the Treasurer's report herewith we believe is in accordance with the books, and appears to us a correct statement of the financial condition of the Club as of that date. Yours very truly,

J. FRANK DUNBAR,
GEORGE P. EUSTIS

The following officers were elected:

Honorary Vice-President—JOHN H. FLINT

President—A. M. PAUL.

Vice-President—A. W. STEDMAN.

Secretary—HENRY C. PEARSON.

Treasurer—FREDERICK H. JONES.

Assistant Secretary—ROBERT L. RICE.

Directors—C. C. Converse, E. S. Williams, Joseph Davol, Ira F. Burnham, George P. Whitmore, E. E. Wadbrook.

The formal business being finished, the Secretary rose and briefly sketching the beginnings of the Club, and its six years of successful work, in all of which the retiring Treasurer had been a most potent factor, read, as an expression of the Club's appreciation, the following:

When it is the rare good fortune of an association to number among its members one so universally appreciated, respected, and loved as the retiring Treasurer of the New England Rubber Club, it is its high privilege in some fitting manner to make acknowledgment. Inasmuch as the value of a token



PRESIDENT A. M. PAUL

lies in its intent rather than its intrinsic worth, and as respect cannot be expressed by gift, nor love by measure in loving cups this engrossed parchment outranks them all. For in it the members of the New England Rubber Club make this

DECLARATION.

That our friend, George P. Whitmore, in all of the varied phases of Committee work, at banquet, Smoke Talk, or Summer Outing, by genial presence, sane counsel, modest manner, and self-sacrificing attention to detail, has won the respect and love of all. That his retirement from the office that he has so long held does not mean a passing from our friendly intercourse nor the abatement in the slightest degree of our interest in him, or slackening of the delightful comradeship that we have enjoyed. We wish him health, prosperity, and many years of continuance as our honored friend and associate.

JOHN H. FLINT, President. ARTHUR W. STEDMAN, Vice President.
HENRY C. PEARSON, Secretary. ELSTONE WADBROOK, Asst. Secretary.

HONORARY VICE PRESIDENTS

LEWIS D. AINSLEY AUGUSTUS O. BOURN ROBERT D. EVANS
JAMES BENNETT FORSYTH GEORGE H. HOOD HENRY C. MORSE

By vote of the Club, this document, signed by the officers, will be engrossed and presented to Mr. Whitmore.

Then followed an exceedingly interesting talk by Mr. Richard Arthur, on the historic ten thousand mile cruise of Commodore Benedict's yacht, the *Virginia*, through the West Indies and up the Amazon. The stereopticon illustrations that gave one glimpses of the many places visited were as a rule excellent and selected with much judgment. As the story of the trip has already been embodied in an exceedingly well written and finely illustrated book, ("Ten Thousand Miles in a Yacht"), which is now within reach of the trade, the reader is referred to it, rather than to a synopsis here that would of necessity be most inadequate.

After a vote of thanks to the speaker, and a collation, the Club adjourned.

RESIN IN RUBBER FROM VULCANIZATION.

TO THE EDITOR OF THE INDIA RUBBER WORLD: In your issue for March 1, under the title, "Navy Specifications for Gaskets," a correspondent calls attention to anomalies in the specification issued by the United States navy. One per cent. of resin is not to be exceeded, and this, he states, is an impossible requirement, owing to the resinous matters produced by vulcanization. That resin or at any rate an oxidized product soluble in acetone is produced during vulcanization is now well recognized, and the fact has to be taken into careful consideration in attempting to form an opinion of the quality of rubber used in a mixing. With regard, however, to the particular case under notice, it depends on how much pure rubber is specified, before one can endorse the criticism that 1 per cent. is an impossibility. If the mixing contained 50 per cent. of fine Pará at 1.5 per cent. resin the 0.75 per cent. which the mixing contained would be at least doubled during vulcanization, and thus bring the goods over the limit. It appears then that if the official limit is to be complied with, the goods must not contain more than about 30 per cent. of fine Pará, always supposing that the original resin content is no more than doubled during manufacture—an eventuality which can by no means be assumed with confidence. Certainly the test seems much too stringent and to have been ordained without due consideration of the facts, and manufacturers would do well to bestir themselves to effect its repeal. The recent alteration

in the British admiralty tests were the outcome, I may say, of strenuous representation made by the manufacturers to the authorities concerned, and in these days when rubber goods buyers of all sorts are drawing up specifications manufacturers should look to it that their interests are not imperilled by any hesitancy in making known their own views on the questions involved. With regard to the 3.5 per cent. of sulphur mentioned, the sulphur in any barytes present would not come into consideration; that is, if the analyst knew his business, though it is to be feared in this connection, that the manufacturer is often at the mercy of analysts who have no practical knowledge to enable them to draw correct deductions from the analytical data obtained by rigid adhesion to text-book methods.

HUBERT L. TERRY, F. I. C., A. I. M. M.

23 Hopwood avenue, Manchester, England, April 16, 1906.

AN ASBESTOS NEWS NOTE CORRECTED.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The asbestos manufacturing industry in the United States is certainly paralyzed by your note, upon page 226, in your issue of April 1, commending our good friends, Messrs. Turner Brothers, Limited, of Spotland Mills, Rochdale, England, as being, through their recent addition of a rubber department, placed in "the unique position of turning out goods consisting of rubber and asbestos, such as sheeting, packing, tape rings, and the like." The Messrs. Turner Brothers are "up to date" manufacturers all right, but "there are others," among them, Alfred Calmon of Hamburg, who advertises in THE WORLD, Messrs. The H. W. Johns-Manville Co., of New York, and the Keasbey & Mattison Co. of Ambler, Pennsylvania—which latter corporation prepared the asbestos, from start to finish, from the crushed rock to the completed asbestos safety curtain at the new and gigantic Hippodrome, in your own city—either of which concerns have, for years past, done large amounts of proofing in their own factories. Yours respectfully,

RICHARD V. MATTISON, M. D.

Ambler, Pennsylvania, April 5, 1906. [President Keasbey & Mattison Co.]

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values of exports of manufactures of India rubber and Gutta-percha, for February, 1906, and the first eight months of five fiscal years, beginning July 1, from the treasury department at Washington:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
February	\$ 96,554	\$ 64,327	\$ 210,292	\$ 371,173
July-January	738,000	1,238,837	1,626,020	3,602,857
Total	\$834,554	\$1,303,164	\$1,836,312	\$3,974,030
Total, 1904-05	591,309	1,018,122	1,541,198	3,150,629
Total, 1903-04	599,530	901,017	1,586,720	3,084,273
Total, 1902-03	524,847	912,855	1,407,722	2,845,424
Total, 1901-02	401,559	885,561	1,077,189	2,364,309

THE firm of Schack & Pearson, Mattenwiete 2, I, Hamburg, wholesale dealers in technical surgical rubber goods, was recently taken over by the Dr. Heintz Traun & Söhne rubber works, formerly the Harburger-Gummi-Kamm Co., who will continue the business.

RUBBER GOODS MANUFACTURING CO.'S REPORT.

THE seventh annual meeting of the shareholders of the Rubber Goods Manufacturing Co., incorporated under the laws of New Jersey, was held on April 12, at the registered offices of the company in that state, in Jersey City. The following statement of the condition of the company was made to the shareholders in reports of the president and treasurer:

TO THE STOCKHOLDERS OF THE RUBBER GOODS MANUFACTURING CO.: In submitting the seventh annual report of your company, I beg to call attention to its excellent condition, evidenced by the increase in business, in equipment, and in its facilities for obtaining supplies of crude rubber.

At the time of the last annual report there was a one-quarter interest of the Morgan & Wright company outstanding, which has since been acquired. This company operated at great disadvantage in several leased premises. During the year there has been erected at Detroit, Michigan, the best equipped and most modern plant in the world, having a capacity of \$5,000,000 per year, as against \$2,000,000, the united capacity of the former leased premises. The company has had no benefit from this plant the past year, as it has been in process of construction. It will, however, be in full operation this summer.

The above accounts in part for the increase in the investment account. The balance is accounted for by the interest that this company acquired in the General Rubber Co.

Another most important step forward during the past year is the uniting of the operations of this company with the United States Rubber Co. in the purchase of crude rubber. This unity of action has been effected through the joint ownership of this company and the United States Rubber Co. of all the stock of the General Rubber Co. The benefits derived from these connections in the past six months warrant the expectation that in the near future your company, together with the United States Rubber Co., will occupy a position of unique advantage in this most important branch of the business.

All crude materials employed in the manufacture of our product,—rubber, cotton duck, etc., ranged higher in price in 1905 than in any previous year in the history of the industry.

The maintenance of plants and equipment without exception has received the same careful attention as in previous years, and their values to day greatly exceed their original cost.

Reports received from the various allied companies for the first quarter of 1906 show a gratifying increase of sales over the same period of 1905. Respectfully,

CHARLES H. DALE, President.

Jersey City, New Jersey, April 12, 1906.

BALANCE SHEET.

ASSETS.		
	March 31, 1906.	March 31, 1905.
Cash	\$ 383,593.65	\$ 349,164.64
Mortgage notes (for property sold)	19,000.00	23,000.00
Accounts receivable	7,792.26	5,244.33
Investments, Stocks of allied companies	27,458,779.69	25,033,279.69
Total	\$27,869,165.60	\$24,993,100.00
LIABILITIES.		
Preferred stock	\$10,351,400.00	\$ 8,051,400.00
Common stock	16,941,700.00	16,941,700.00
Total	\$27,293,100.00	\$24,993,100.00
Surplus	\$ 576,065.60	\$ 417,588.66

INCOMES AND DISBURSEMENTS

FOR YEAR ENDING MARCH 31, 1906.

Balance brought from 1905	\$ 417,588.66
Amount realized on old items previously charged off	10,173.84
Income from dividends declared by allied companies for year	962,323.91

Total

Expenses paid for year

Net income

Four dividends paid to March 31, 1906, Preferred

Balance, surplus

SYNOPSIS OF OPERATIONS OF ALLIED COMPANIES FOR YEARS ENDING DECEMBER 31

	1904.	1905.
Sales	\$14,556,289.00	\$17,662,453.00
Gross earnings	1,901,630.02	2,202,035.77
Net balance of profit	1,150,717.56	1,358,485.29
Dividends declared for year	a 810,746.16	b 986,835.91

[a - To March 31, 1905. b - To March 31, 1906.]

A motion to reduce the number of directors from 15 to 9 was adopted, 246,409 shares being voted in favor of the resolution and 49 votes against. Article II, section I of the by-laws now reads in part as follows:

The board of directors shall consist of 9 stockholders, or such greater number, not exceeding 21, as may, by amendment hereof, be from time to time prescribed. The board of directors may at any time increase their number by election to such board of an additional person or persons, who shall be stockholders of the company, as provided for the articles of incorporation.

The following were then elected directors, the new members of the board being indicated by italics:

Charles H. Dale, Ernest Hopkinson, Charles A. Hunter,
Frank W. Eddy, Arthur L. Kelley, Samuel P. Colt,
Anthony N. Brady, *Lester Leland*, *John J. Watson, Jr.*

The directors elected last year and not on the new board are Talbot J. Taylor, Harry Keene, Edward Lauterbach, M. I. Blanchard, H. O. Smith, C. J. Butler, William Seward, Jr., E. J. Coughlin, W. J. Courtney, and John H. Cobb. Colonel Colt was first elected a member of the board several months ago. Charles H. Dale and Arthur L. Kelley, of the Rubber Goods board, were elected directors of the United States Rubber Co. in January last, and it is understood that other representatives of the Rubber Goods company will be added shortly to the board of the United States company.

The first meeting of the new board of the Rubber Goods Manufacturing Co. was held on April 13, when the following officers were elected:

President—CHARLES H. DALE (re-elected)

Vice Presidents—LESTER LELAND (second vice president United States Rubber Co.); CHARLES A. HUNTER (re-elected).

Secretary and Treasurer—JOHN J. WATSON, JR., (treasurer United States Rubber Co.).

Assistant Secretary and Assistant Treasurer—JAMES MCGUFFOG (re-elected).

* * *

THE newspapers have contained references to certain questions asked of the management by Mr. August Hecksher, stated to be the holder of 1500 shares of common and 2400 shares of preferred stock in the Rubber Goods Manufacturing Co. It appears that, prior to the meeting on April 12, Mr. Hecksher served notice of his intention to submit some questions, and was invited to put them in writing. He did

so, and the answers were also put in writing, by Mr. Charles MacVeagh, of the company's counsel.

In response to inquiries as to what advances had been made by the company since the annual meeting in 1905 to the United States Rubber Co. or its subsidiary companies, the answer was "None."

In answer to questions regarding the issue of additional preferred stock during the year, it was stated that \$1,000,000 had been issued for an equal amount of the capital of the General Rubber Co., organized for buying crude rubber, and the shares of which are owned jointly by the United States and Rubber Goods companies. Another issue, of \$1,300,000, was for the acquisition of a like amount of stock of the Morgan & Wright Co. of Michigan, the proceeds being devoted to the purpose of building that company's new plant at Detroit. The amount of the Rubber Goods company's preferred stock outstanding is thus \$2,300,000 larger than one year ago.

Other questions by Mr. Hecksher related to statements regarding the condition of the Rubber Goods company, by the management of the United States Rubber Co., prior to the acquisition of the former by the latter, which statements appeared to Mr. Hecksher as not in harmony with the reports published by the Rubber Goods company. Mr. MacVeagh's answer goes into the matter of the actual and estimated earnings of the Rubber Goods company. The chief point relates to the assurance that the Rubber Goods company, operated in connection with the United States company, would earn probably more than—

The sum of \$1,850,000 which after reasonable and proper deductions has been averaged by the Rubber Goods Manufacturing Co. for the last two years.

The company's answer reads, in part :

The earnings of the allied companies of the Rubber Goods Manufacturing Co. for the years 1903 and 1904, as shown by the annual reports, were	\$4,035,417.58
Of these earnings the amount belonging to stockholders of the allied companies other than the Rubber Goods Manufacturing Co. was.....	85,452 31

So that the earnings of the Rubber Goods company for the two years were.....	\$3,949,965.31
Or an average per year of.....	1,974,982.63½

In the annual reports for these years certain sums were shown as having been charged off for maintenance and repairs : In 1903	\$ 209,644.73
And in 1904	178,331.50

A total of.....	\$ 387,976.23
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Even after deducting these entire amounts from the earnings of the Rubber Goods company for these two years, we find the average amount of earnings to be \$1,780,994.52. The difference between this average and the amount quoted in the question is less than \$70,000.

AN ECHO OF "INTERNATIONAL RUBBER."

THE New York Times (April 8), in a story of the career of one Alfred R. Goslin, whom it describes as "the master thief of Wall street," includes a mention of the "International Wheel, Tire and Rubber Manufacturing Co." fraud, some of the history of which has appeared in THE INDIA RUBBER WORLD. It appears that one Bernard Uhren, an agent of Goslin, engaged in doing an apparently regular

brokerage business, was able to arrange with a New York bank to receive stocks offered to Uhren's firm and to certify checks given in payment, holding the stocks as security. The first stocks offered were high class and the checks certified by the bank were made good.

Then one day up came a block of \$23,750 International Rubber stock, with the usual request that it be received for Bernard Uhren & Co. It was so received, and the bank paid the gentleman who brought it up from where Goslin's brokers were washing it around on the curb the \$23,750 called for. Uhren & Co. refused to make good, and the bank was "stuck" with the International Rubber, discovering then, to its sorrow, that the company was a Goslin concern and operated for the purpose to which it had been so effectively put in this case.

Of course the bank threatened suit and exposure. In turn Goslin suggested an action to determine how far the bank had violated the Federal regulations against overcertification. The bank decided it wouldn't sue Goslin or Uhren & Co., and, so far as people have ever heard, it still holds its block of International Rubber stock.

The so called rubber company secured an option on an unused factory at New Brunswick, New Jersey, but never did any work there. The promoters, however, are believed to have sold a large number of shares throughout the company.

RUBBER STAMP SIGNATURES

THE New York Journal of Commerce prints the following question and answer :

In giving a receipt for money paid on account is it legal to use a rubber stamp of the firm's name, or is a signature in ink required? Banks invariably use rubber stamps only on promissory notes paid at their windows. C.

A signature made with a rubber stamp is as binding and valid for most purposes as a signature made in any other way. The objection to it lies in the difficulty of proof. If A B signs his name in writing witnesses can usually be found who are acquainted with his signature, made in this way, and who can establish the fact that he made it. If the signature is made with a stamp, which might be equally well handled by anyone, it is, of course, more difficult to prove that A B was handling it on this occasion; but if that fact can be established A B is bound. A creditor is not bound, in this State, to give any receipt for money paid, and if he offers even a receipt signed with a rubber stamp it is just so much more than he could be compelled by law to do. In the case of a promissory note possession of the note by the debtor (and he has a right to demand that) is sufficient proof of payment unless the creditor can prove affirmatively that the debtor got possession of the note without paying it.

A RUBBER TIGER YARN FROM INDIA.

[FROM THE "STRAITS TIMES," SINGAPORE.]

ON one of the Perak rubber estates run by a canny Scot they have been rather short of labor, and as tapping is in full swing have been hard pressed. The other day the manager hit on a brilliant idea, and had the trunks of all the trees rubbed with valerian. Now the tigers come and scratch and tap the bark in the most approved herringbone pattern, so that all the few remaining coolies have to do is to walk round once a day and collect the rubber.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN

By Our Regular Correspondent.

IN the March issue of THE INDIA RUBBER WORLD the American consul at Bordeaux was quoted on this subject. It is mentioned that the French market is controlled by the firm of James Williamson & Sons, of Lancaster, England. This is the firm whose head has made

an immense fortune out of linoleum and was raised to the peerage by Lord Rosebery, under the title of Lord Ashton. As regards, however, the particular product under reference, table oilcloth, or baize, as it is commonly called, I was under the impression that it was at the opposition Lancaster works of Storey & Sons that it was chiefly made. Fifteen or more years ago I remember being told that though Williamson's could do all the heavy linoleum business, they could not compete with Storey's in table baize, which was somewhat of a trade secret of the latter firm. About the date I have mentioned an analytical chemist in practice in Manchester had an offer from Williamson's to take up the post of chemist at their works. The offer, I understand, was a tempting one, but entailed the obligation of a life devotion to the work of the firm and an undertaking not to work for any competitor. Anyhow the appointment was taken up and it may have resulted in Williamson's having gained precedence over Storey's in this particular product. I speak with all reserve because it may be that the consul was imperfectly informed on the matter and that the firm of Storey should have been mentioned as prominent in the regulation of prices. It shows at any rate that the French are backward in this manufacture themselves; how the Americans stand in this matter I do not know but the fact that for a long time there was only one British firm making it and that numerous futile attempts were made by would-be competitors to get hold of the secret, shows that the manufacture is one of considerable difficulty. With regard to the ordinary heavy oilcloth, called linoleum, there are plenty of manufacturers up and down the country, and Williamson's, though probably the largest producers, have in no sense a monopoly. The manufacture of what is known as Brattice cloth, for collieries, is only carried on by a few firms, though it is probably due to the matter of supply and demand rather than to any inherent difficulties in the process.

UNDER this title the St. Helens Cable Co., Limited, enters upon another phase of its existence, this being the third or fourth company which has occupied the buildings originally erected for the Mersey Rubber Co., at Warrington. The name of St. Helens came to be associated with the concern because the Messrs. Glover, wire drawees of St. Helens, were largely concerned in its capitalization, and indeed it was the original intention of the last company to name the name Glover, but this was prevented as the result of legal action taken by Messrs. W. T. Glover & Co., Limited, the well known cable firm of Manchester. The Pilkingtons and Mr. Beecham of medicine fame were others financially interested in the company when Mr. Heyl-Dia was managing director. The new company has an interesting constitution as the 10,000 shares are mostly held by three prominent

cable companies commonly assumed to be in commercial rivalry namely Callenders Cable and Construction Co., Limited, The British Insulated and Helsby Cables Limited and Siemens Brothers & Co., Limited. The formation of the new concern has been notified to the shareholders of the Helsby company as being beneficial to their interests, and at any rate the financial backing of the company is such as to set at rest any qualms as to the future. The exit of the St. Helens Cable Co., Limited it may be added, removes a prominent company from among those few who remain outside the pale of the Cable Maker's Union for regulating standards of quality and prices.

THIS waterproofing firm, which carries on business at the Thistle works, Tradeston, Glasgow, has sustained a severe loss in the death of Mr. George Campbell, a loss which is all the more severe as after the death of Mr. Achnach a few years ago he had the control of the business. The management will now be in the hands of Mr. David Campbell, his brother. The present works manager is Mr. Paterson, who was at one time with the North British company, and was also manager of the Gorton Rubber Works under Mr. Heaton's regime. Though the firm under notice report themselves as busy they in common with other Scotch waterproofers complain of the competition which admits of but the barest profit being made.

THIS body was I think first adopted by Weber as a solvent for tar pitch and asphaltum in rubber analysis. Recently, however, Esch, as also Ditmar, have shown in the *Gummi-Zeitung*, that on boiling it is not without action on vulcanized and that it cannot therefore, be used for the above determinations. I don't know that this will cause much dismay among rubber analysts, because tar and asphalt are by no means of such common occurrence in rubber goods as the numerous reference to their determination would lead the uninitiated to imagine. All the same rubber analysis is not yet such an exact science that slight inaccuracies need cause the abandonment of a process and the pyridine extraction may still be used in those few cases where an approximation of tarry matters is desired. Chemically, I may say, pyridine is allied to the alkaloids, of which quinine is a well example, and it is extracted from the higher boiling products of coal tar. Its principal use is for mixing with methylated spirits to make them unpalatable as a beverage. For this purpose it has of late by government order, replaced wood-naphtha. It is one of the basic products of coal tar and is the lowest member of a homologous series, if I may use the expression. There are many other similar bodies higher in the series which are obtained as a by-product in the preparation of pure pyridine. These higher bases unlike pyridine have a strong solvent action on vulcanized rubber and considering that they are much the same chemically, it is rather surprising that pyridine should have so little action. It was, I may add, from a desire to find some use for these bases that Robinson Brothers and Clift patented their process for the recovery of rubber from vulcanized waste. Their process has already been described in

TAB. E
OILCLOTH.

MESSRS. CAMPBELL,
ACHNACH & CO.

PYRIDINE.

ST. HELENS
CABLE & RUBBER
CO., LIMITED.

these pages, and I need say no more than that these coal tar bases were used to bring the rubber into solution. I am not aware as to how far commercial success has been obtained, but the application in a large scale would, I should think, soon use up the limited quantities of this solvent which are produced. Pyridine, it may be mentioned in conclusion, is sometimes met with in coal tar naphtha which has been imperfectly purified and a very small quantity communicates its disagreeable odor to the general atmosphere of the spreading room.

Now that the reconstruction proposals have been carried by the shareholders there seems every reason to suppose that the scheme for writing down the capital will go through; at any rate there seems no good purpose to be served by any objection at Somerset House. I may mention that the spirit of economy and change has had a serious significance to others than the shareholders. I refer to the staff at the Birmingham works, rather abrupt notice having been given in more than one case to officials. Not that there is anything very novel in these changes for the history of these works back to the days when the Byrnes were the ruling spirits is replete with changes in *personnel*.

THE decline in importance of the proofing branch in late years has seen a great fall in the prices for solvent naphtha which ruled a decade ago. A year or two ago proofers found themselves unable to get through their reduced contracts and the tar distillers were much put to it to get rid of their output. A year ago contracts were made at about 7 pence per gallon. At the present time, however, similar naphtha is being contracted for at over 1 shilling per gallon and there has been some speculation as to the cause of the rise, the proofing manufacturers maintaining that it cannot be due to any greatly increased demand from their trade. Probably the explanation will be found in an arrangement among the tar distillers.

THE recent notification in THE INDIA RUBBER WORLD by the Pará Recovery Co. (Bayonne, New Jersey) that they have made arrangements with Mr. Heyl-Dia to manufacture all his synthetic and crude rubber products has excited a certain amount of interest in England. What people want to know, however, is how far the name of synthetic rubber is justified. Mr. Heyl-Dia, of course, as a scientific man, would hardly be likely to use the term synthetic rubber for what is merely a substitute. Is it then a fact that by his secret process rubber is manufactured from its elements, carbon and hydrogen—or at any rate from combinations of these, which are quite distinct from rubber? Of course what Tilden has done in this way has been known for some years, but he never put it forward as a commercial product, on account of the price; it has remained merely as a chemical curiosity the result of scientific research. If Mr. Heyl-Dia really has produced rubber by chemical means out of non-rubber substances, it is a very interesting fact; but then it is difficult to see how it can be made at a price to pay, seeing that Pará rubber is now being produced in plantations at a cost of about 1 shilling per pound. Expressions of opinion, however, are current that Mr. Heyl-Dia's rubber will turn out to be an artificial rubber in the same way that Gentsch Gutta-percha is not Gutta-percha, but a substitute for it. If this is so the

expression synthetic rubber is altogether a misnomer which may be permissible in trade circles, but will not add to the scientific reputation of those who use it. The foregoing of course has no reference to the commercial value of the product, which for all I know may be superior to Pará rubber. Quite possibly some admixture or combination of organic bodies might be produced to yield the advantages of rubber without its tendency to oxidation and decay. I believe that Gentsch's artificial product has proved its superiority to natural Gutta-percha as regards tendency to oxidation, but I never heard of it being called "synthetic gutta."

UNDER the title of a "Wonderful Rubber Romance" a paragraph is circulating in the British daily press referring to the ram and rabbit weed incident which has so frequently been humorously mentioned in these pages by our Editor. From what I understood before I thought that the rubber substance existed in the weed ready formed, but by the British account it appears that the rubber is produced from other vegetable matter by the somewhat complex processes of salivation and digestion. It was by putting the weed through processes approximating as closely as possible to nature's laboratory operations that the men of Durango (so I read) have been successful in producing rubber from it. It is stated that the results are eminently satisfactory and that rubber goods manufactured from this source have been exhibited at Washington. Probably most of those on this side who have read this paragraph will put it down as another tall story from America, but facts so explicitly stated should have a substratum of truth. If they have not and the story is an invention in order to impose upon the credulous, perhaps our Editor, casting aside the spirit of levity, will give us the facts up-to-date.

[THE Editor of THE INDIA RUBBER WORLD has never been able to find any evidence that there is rubber in Colorado, and it is his belief that in passing a certain bill which seems to give the government's endorsement to the "rabbit weed" enterprise, the legislators at Washington were imposed upon.]

CONTRARY to what is generally supposed, it is not the golfer who grumbles at the rubber cored golf ball—that is, I mean, at the price—so much as the sporting outfitter. The latter states that the new ball has deprived him of a good deal of business in the way of repairs to clubs. It appears that the solid gutta ball did a good deal more damage to clubs than the modern ball does, and that the profitable repairing business has fallen off accordingly. One of the latest balls of Scotch origin has a liquid core; it is retailed at 2 shillings but I do not hear that it has any very special merits. The Haskell appeal case did not excite much interest as its failure was very generally assumed. So the business of Hutchison Main & Co. of Cowlairst, Glasgow, with their 1s. 3d. "Hawk" ball will not be interfered with. At the same time there are plenty of golfers who prefer the more expensive Haskell ball and the British makers thereof are not likely to be snuffed out.

A DEED for the issue of £10,000 debentures has recently been registered by the Irwell and Eastern Rubber Co., Limited, to provide additional necessary capital. This is in addition to £20,000 ordinary capital recently taken up by the shareholders.

THE DUNLOP
COMPANY.

COLORADO
RUBBER.

SOLVENT
NAPHTHA.

SYNTHETIC
RUBBER.

GOLF BALL
ITEMS.

NOTES ON THE "CASTILLOA" RUBBER TREE—II.

WHAT latex is to the tree is still a debatable question. I think that it is simply a protection against insects and evaporation whenever the tree is wounded. Anything striking against the outside bark, if it hits hard enough, will bruise the inner bark so that the latex flows. An examination of this place a day or two later will show a thin coat of rubber entirely covering the bruise. Tropical trees do not have the thick outer corky bark of northern trees. Anything striking them is liable to bruise the inner bark. This sheet of rubber forming would protect the bruise from too much evaporation and from insect attacks. Leaf cutter ants do not attack the leaves of *Castilloa* and cattle do not seem to be fond of them, but I believe that this is not due to the latex but due to the thick coat of epidermal hairs, a thing which few tropical trees seem to possess. It is noticeable that ants do attack *Hevea*, which has not a hairy leaf.

The study of the structure of the latex shows that it has two distinct parts—watery solutions and solid substance in minute globules. The watery solutions contain no rubber. They do contain the substance which forms the residue of the black water, though this substance is apparently changed by oxidation before becoming black water. They may also contain sugars and proteids, as these substances are evidently there, but it is more than likely that these substances are not in the original latex but come from some other bark tissue than the "milk tubes."

The solid globules are principally rubber but they are said to be surrounded by protoplasm and contain a nucleus. In that case they would be cellular in their nature. As the tube in which they are enclosed is already a cell, it would be a case of a cell within a cell, which is rather rare in botany. At the same time they are very small for cells. I have not been able to examine the structure of the single globule, as my microscope is not powerful enough, but I think that they are not cellular but are originally chromatophores in which rubber has been stored. In that case they would be formed in a similar manner to starch grains in a potato and other roots. I believe that this is the case and that the substance in solution, later forming the black water, bears the same relation to rubber that sugar does to starch; that is, they are similar forms of carbohydrates which can be readily changed from one to the other by the action of an enzyme, and when they are to be transported from the soluble substance and, when stored, the solid substance. This state of things seems to be the same in all latex bearing plants, as all that I have examined contain this watery solution and the solid globules, though the watery solution doesn't always turn black and the solid globule is not always rubber, but sometimes a sticky substance.

Dr. Weber asserted that the black water was due to oxydation and he believed that rubber itself was an oxydation product. Latex which is gathered and quickly corked up away from the air, forms no black water. Black water gets blacker for longer standing in the air until about five days after gathering. Fresh black water can immediately be turned to its deepest black by ammonia, but ammonia will not affect black water five days old. I believe that the ac-

tion of ammonia is the same as the oxydation in the air. Contact with metals will make black water blacker. Sugar slowly takes the black color away and latex which has not been allowed to oxydize has water which resembles that formed by sugar. I believe that sugar reduces it to its former state. I do not see any reason to think that rubber itself is an oxydation product. It is possible, but if so it can be further oxydized by the use of nitric acid.

The problem of tapping has a great deal to do with how the latex is situated in the tree. According to most writers it is carried in "milk tubes" which are in the bark and are arranged vertically. I have not found any writers who seem to know what these milk tubes are like—whether the latex runs up or down in them, or what connection these milk tubes have with other parts of the plant. When I first got here I tried a number of experiments, trying to increase the flow of latex by multiple tapping, gradual tapping, and so on, but all these failed. The reason for these failures I now attribute to the shape and position of the latex carrying tissue in the plant. This tissue, I believe, is the part known as the bast fiber. Bast fibers are long fibrous threads, tapering to a point on each end, having a thick, tough wall and in most plants dead, and containing nothing in the cell cavity.

In the *Castilloa*, the microscope shows that the bast fibers have a larger cell cavity than in most plants. It is reasonable to suppose that they are in such cases alive and contain something. I have seen no other tissues in the *Castilloa* bark which contain the latex and therefore believe that these bast fibers do. The bast fibers are arranged vertically and are probably only a few inches long. Those I have examined in temporary branches were from 1 to 3 inches, but they are probably longer in older parts of the trees. The fibers are probably connected to each other by pits but I have not been able to locate these connections. These pits would not allow solid substances to pass from one fiber to another, but would allow water and watery solutions.

The rubber being in solid globules is probably formed right in the fiber itself. The fibers are not arranged in regular joints, as was the opinion of Carlos Berger, but are irregularly arranged, the tapering end of one fiber fitting between other fibers. When the fibers are cut across by a tapping instrument their content is ejected by bark pressure. Such a cut will take latex from the tree only for a distance of 3 or 4 inches each side of the cut. This shows that the latex does not run up and down the tree or from one fiber to another. If no more cuts are made, the latex will not be renewed in the cut fiber for some time (not entirely for about 3 months), although the surrounding fibers are full of latex. This shows that all the latex from the tree cannot be taken from one cut.

The distance apart that cuts should be made around the tree is a disputed subject, and depends not only on the length of the bast fibers and the way to get the most yield, but also on the amount of injury done to the tree. If yield were the only consideration, one foot would be a good distance and would give, I believe, the maximum yield. Eighteen inches will give close to the maximum, giving enough more latex from each cut to make up for the fewer cuts. Both of these

distances, however, are objectionable, because a large number of cuts appears to detract from the healing powers of the tree and the more cuts, the greater the chances of the tree being injured by the borer. Another point in the number of cuts is the time and labor in making the cuts. Six cuts to a tree is twice as much labor as 3 cuts, but if it does not give twice as much rubber it would be cheaper to make 3 cuts and tap a larger number of trees in a day.

The tapping is now being done with only 3 cuts per tree; one at the base, one at 5 feet from the ground, and one half way between these. Tapping above 5 feet necessitates the use of ladders, and this would mean more labor and would hardly pay with young trees. I believe the making of 4 cuts, the top one 6 feet from the ground, would give enough more than 3 cuts to pay, if it is not too great an injury to the tree.

The first signs of healing appear between one and two weeks after the cut is made, and in two months at the latest the cut is well healed. In time the whole cut will fill with new material which contains latex and can be tapped again if necessary. Another strong reason why the tool should cut to the cambium is that not only does the shallow cut miss cutting some "milk tubes" but it misses a very large proportion of the tubes. The milk tubes are formed by the cambium in layers. The ones closest to the outside bark were formed when the tree was very young and small in circumference. At that time the patches of tubes were close together. Since then the same number of tubes had to spread out and cover a circumference of, say 18 or 20 inches. The spaces between these tubes are filled by medullary rays which run from the pith outward through the wood to the outside bark. Therefore the outermost layers contain very few milk tubes, the next more, and so on, until the innermost layer has the most since it was formed when the circumference was greatest. This is borne out in facts. A much larger yield is actually obtained by cutting into the cambium than by cutting almost into it.

Another thing to be avoided is cutting too deep. When a cut goes through the cambium into the wood the healing commences at the edges of the cut cambium, and has to spread slowly, making new cambium before it can make new bark or wood. If too much wood is exposed in this case it will often dry up before the cambium can heal over and in that case it never heals. I have seen an old machete cut with a half inch of wood exposed, with the bark thoroughly healed all around it. I was told that it had been that way without healing for two years.

As to the time to tap, there appears to be no reason why the trees should not be tapped at any time during the rainy season. I should imagine that the driest season in March and April would be a poor time, but I haven't been here during that season. Rain generally makes the milk rather watery and makes it flow more freely, but I have never seen it so watery that it would not pay to tap, except in a tree which had been recently tapped. Tapping in heavy rain would not do, as it would wash the latex, which does not flow into the cups and might fill up the cups and spill the latex in them.

Temperature affects the flow of latex very noticeably. The yield of rubber is much greater in the early morning than at any other time of the day, and always decreases toward noon and increases toward night. This is not so noticeable on

cool cloudy days. It would probably not be so noticeable in a shady plantation and for this reason some people have claimed that shade grown trees yield more. I believe that the reason temperature affects the flow is because a large amount of the water is evaporated and the latex is more solid and does not flow so freely.

Experiments of others have shown that young trees and younger parts of old trees contain a large percentage of resin in their rubber. I have made one observation which suggests a reason for this. In cutting a temporary branch, or leaf stem, it is noticeable that the latex comes very close to the outside bark and that there appears to be a second ring of tubes in the inner bark. Microscopic examination of these parts shows a large number of collendyma cells close to the outside bark. These cells are similar to bast fibers, but the thick part of the walls is not uniform. Collendyma cells are never formed by older trees except in their young parts. I think it possible that by these collendyma cells carry latex which is richer in resins than ordinary latex and which may possibly be entirely resin. Of course these collendyma cells remain in the plant as it grows older but form a very small proportion of its tissue at that time. It is possible that rubber or resin may have some chemical relation to the cellulose of which the thick walls of both collendyma and bast fibers are formed.

A FORESTER.

Bluefields, Nicaragua, February, 1906.

CEYLON RUBBER EXHIBITION.

A RUBBER exhibition, under authority of the Ceylon government, will be held in the Royal Botanic Gardens at Peradeniya, beginning on September 13 and remaining open for a fortnight. This will be the first exhibition of its kind and it is hoped will mark an epoch in the history of rubber. The exhibition will comprise anything and everything that has to do with rubber, and exhibits are invited of crude rubber, however produced; of rubber in various stages of manufacture; any forms of machinery designed for use in connection with rubber; "and anything else, likely to prove of interest." The exhibition will be held at the most central and familiar place in Ceylon, and is intended to attract all rubber planters from the Far East, and particularly those of Ceylon and the Federated Malay States, who thus far have made more progress in this new interest than has been made elsewhere.

Dr. John C. Willis, director of the Ceylon botanic gardens, in the official circular announcing the exhibition, states that "though the exports of plantation rubber from Ceylon and the Malay States as yet are inconsiderable, they are doubling annually and will in about seven years time probably reach 10,000,000 or 15,000,000 pounds, and increase rapidly after that, in 15 years from now probably exceeding the exports of Brazil." It is intimated that manufacturers in future will find their chief dependence for rubber to be upon the plantation product, "and wild rubbers will be driven off the market, excepting perhaps the Pará rubber of Brazil, for which there is likely to be some use and a remunerative price for a long while yet."

The circular intimates that important development in the matter of machinery is to be looked for in two respects: (1) in designing mechanical appliances for the preparation of plantation rubber, in which connection an important begin-

ning has been made already in Ceylon, and (2) in the making of machinery specially fitted for use in the rubber factory, for dealing with the clean dry plantation rubber as distinguished from rubber now used, containing a large percentage of impurities. Not only the machinery trades are invited to become interested, but likewise the manufacturers of rubber goods for the reason, that it is important that they become informed as to the mode of preparation of cultivated rubber and other questions connected with it. As Dr. Willis says to the rubber manufacturers: "It will offer you an unrivaled opportunity for getting into touch with the producers and perhaps for making contracts for supply of rubber prepared to suit your own requirements."

No import duty will be charged upon articles entered for exhibition. Entries may be addressed: E. B. Denham, Esq., c. c. s., The Secretariat, Colombo, Ceylon, to reach him before July 31, and goods should be forwarded from Europe not later than that date.

BURY'S RUBBER LATEX PROTECTOR.

TO THE EDITOR OF THE INDIA RUBBER WORLD: In reply to your inquiry as regards my rubber "latex protector," I beg to inform you that the "protector" is a zinc collar about 2 feet in diameter, adjustable to any size of tree—acting as an umbrella, protecting the latex in the cups beneath from being washed away by rain or fouled by impurities such as sand, dirt, pieces of bark off the tree, etc. I am not yet satisfied with the material and shape of the protector as made locally, and expect to set a perfect one made in London next June, at a rate of say 25 cents each. I may add that I have also invented a very useful tapping platform or ladder with legs and concave pedestal, to fit trunk of tree. This is for tapping branches of high trees and only weighs 12 pounds and folds up. I have received good reports on the latter from various planters—this ladder is useful for a variety of purposes.

A. H. BURY.

"Orange Hill," Ragama, Ceylon, March 19, 1906.

[THE invention referred to was mentioned in THE INDIA RUBBER WORLD, March 1, 1906 (page 192). A letter from another Ceylon source says: "This is a sort of sheet metal umbrella for fixing round the trunk of the tree to prevent rain from washing into the incisions, mixing the latex and flooding the collecting cups. The appliance was tried by several planters but there are obvious objections to its use, such as the necessary compression round the stem to retain it in position; the difficulty of making the connection quite water tight so that rain will not run down the stem past the collar through spaces left; the fact that the appliance will only protect the portion of the stem immediately under it in the case of heavy slanting rain; and the expense of providing the appliance for every tree in a plantation."]

DRAFT ON RUBBER IN ENGLAND.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The question of Draft on Rubber has been under discussion for some long time, and correspondence between London and Liverpool has resulted, we are glad to say, in an arrangement having been come to by all the largest importers, merchants, dealers and brokers of Pará, Peruvian, Boliv-

ian, and African rubbers, that the old, and often vexatious system hitherto in vogue should be done away with and in its place that from July 2 next, draft on all rubbers shall be uniform viz.: $\frac{1}{2}$ per cent. on the gross amount (sterling), irrespective of the weight of the package or the tare.

It is proposed to include Plantation, and if the proposal is agreed to it will be added to the rules of both the London and Liverpool associations.

It is obvious that it will be an advantage to merchants and planters who ship their rubber in small cases, say under 200 pounds weight, and they will gain by the new proposal, and the tare of the case will no longer be a factor to be considered. Shippers can use any kind of cases most convenient to them, without having to allow extra draft. We recommend cases of about $1\frac{1}{2}$ cwt. net where possible. On small packages of 50 pounds under the old system a draft of 1 pound was allowed, which is equal to 2 per cent. and the new rule brings it down to an uniform $\frac{1}{2}$ per cent., whatever the size of the package may be. We would point out that there would be no advantage to the planter in packing into cases of 200 pounds or 400 pounds as the draft on the first would be 1 pound and the second 2 pounds—viz., $\frac{1}{2}$ per cent.—and we think the new proposal should commend itself to all as a reasonable and fair arrangement, between sellers and buyers, and one by which accounts and calculations will be simplified, and the injustice to shippers of small packages done away with. Large and small lots will all be on the same footing. Yours faithfully,

LEWIS & PEAT.

6, Mincing Lane, E. C., London, April 5, 1906.

RUBBER IN THE FAR EAST.

STEPS have been taken in London to form a company with £225,000 capital [= \$1,094,963] to take over several important Ceylon rubber planting enterprises, including Kepitigalla, in Matale, Ceylon, the management of which, by Mr. Francis J. Holloway, has been reported on more than once in THE INDIA RUBBER WORLD, including a special article by Mr. Etherington in the issue of January 1, 1906 (page 107). Mr. Holloway was recently in London to arrange for the sale of Kepitigalla. "A well known rubber expert and financier" of Ceylon, interviewed recently by *The Times of Ceylon*, considered Kepitigalla to be the finest rubber estate in the East, and that position he thought it would maintain for a number of years. The "Ceylon Hand Book and Directory" for 1905-06 refers to Kepitigalla as embracing 943 acres of which 913 are planted to rubber in cacao.

The new company is The Kepitigalla Rubber Estates, Limited. Books for public subscription to the stock were opened in London on April 9. The directors named are for the most part planters in Ceylon. The secretary and registered offices are Charles Lewis Talbot, 62, Old Broad street, E. C., London. The prospectus mentions that 3412 acres are embraced, of which 2421 are under cultivation. The net profits for 1905 are certified to have been £12,324, mainly from rubber. Mr. Holloway is to be manager.

The investigations on the rubber canker in Ceylon, by Mr. J. B. Carruthers, have been reported on fully in THE INDIA RUBBER WORLD. Mr. Carruthers is now in the Federated Malay States in the capacity of director of agriculture, and, according to *The Times of Ceylon*, the possibility of the spread

of canker there is engaging his attention. Under his advice, the government, as a precautionary measure, has begun the policy of reserving large belts of forests in Selangor with a view to isolating rubber districts from each other.

Measures are under discussion in the Federated Malay States to protect investors in rubber estates from injury at the hands of "company promoters." It is intended to adopt a regulation for the appointment for licensed valuers, and allowing no land to be valued except by these people. If companies can only be floated upon reports from government valuers—that is to say, upon presumably actual valuations given by trustworthy men—it is believed by Sir John Anderson, high commissioner for the Federated Malay States, that the company promoter evil will receive a substantial check. In an interview by *The Times of Ceylon* on the over capitalization of estates due to the work of company promoters, Sir John said: "It is a regrettable fact that the public will not take notice of warnings until they are bitten. They will buy anything at the present time that sounds like rubber."

The Chinese have long been planters on a large scale in the Federated Malay States. They got large blocks of land in the early days at purely nominal prices and grew tapioca upon it. Now tapioca exhausts the soil quickly, and renders it useless for a time. The Chinese as soon as they exhausted the soil at one place, quietly moved on to a new plot, leaving the first neglected. Wherever this was done belang grass sprang up, further impoverishing the soil. Some years ago the government perceived the damage done in this way and compelled a good many of the Chinese to plant rubber on the land, so as to prevent its being impoverished by the grass. The Chinese grumbled a good deal and regarded it as a very great hardship. And yet these very celestials, who considered themselves hardly used, have now properties of enormous value in rubber.

In the Ceylon legislative council (March 16), the Hon. John Ferguson asked if the government was inclined to approach the secretary of state for the colonies to urge British consular agents to endeavor this year to report on rubber interests in their respective districts, including progress in planting and the prospects of a continued supply of raw rubber. The lieutenant governor, presiding, said the Ceylon government had no objection to such a motion.==The council voted 10,000 rupees as a first contribution to the expense of the coming rubber exhibition at Peradeniya.

Mr. Stanley Arden has resigned his government position as director of the experimental plantations of the Federated Malay States, to become manager of the Hevea Rubber Planting Co., lately formed, with \$476,000 registered capital, on a concession granted by the Sultan of Johore in the southwestern part of that state. The capital is said to be subscribed principally in Italy.

The *Penang Gazette* (March 15) summarizes the first annual report of the Sandycroft Rubber Co., operating on the Malay peninsula. During the year 4050 Pará rubber trees were tapped twice (at an interval of 6 months) and 5238 other trees once. The product was 6979 pounds of sheet and 1823 pounds scrap rubber—a total of 8802 pounds from 9288 trees, in the first year. This year 12,325 trees have been marked for tapping. The company have 154 acres under rubber, interplanted with cocoanuts, and this year's planting amounts to 78½ acres. The company capital is \$85,000. The first

year's net profit, after writing off preliminary expenses and for depreciation, was \$9785.88, allowing for a 10 per cent. dividend (\$8500) and \$1285.88 to be carried forward.

THE OHIO RUBBER CULTURE CO.

[Plantation "Capoacan," Canton of Manatitlan, State of Vera Cruz, Mexico.
Office, Canton, Ohio.]

THE first year's work on this plantation shows a result of over 800,000 rubber trees, planted since June 20, 1905, and found by the official inspector, who visited the plantation in January, to be from 3 to 4 feet in height. Orders have been given the Minatitlan Contracting Co., who are under contract to develop the property, to clear sufficient ground this year to bring the planted area to 1,000,000 trees. This new planting will be done the coming June. No side crops are raised, with the exception of corn, etc., sufficient to feed the laborers. The stockholders of the company are mostly representative business men of the state of Ohio, including several rubber manufacturers; while the development of the plantation in Mexico is in the hands of tropical planters of the past eleven years' experience.

UBERO DIRECTORS SUSTAINED.

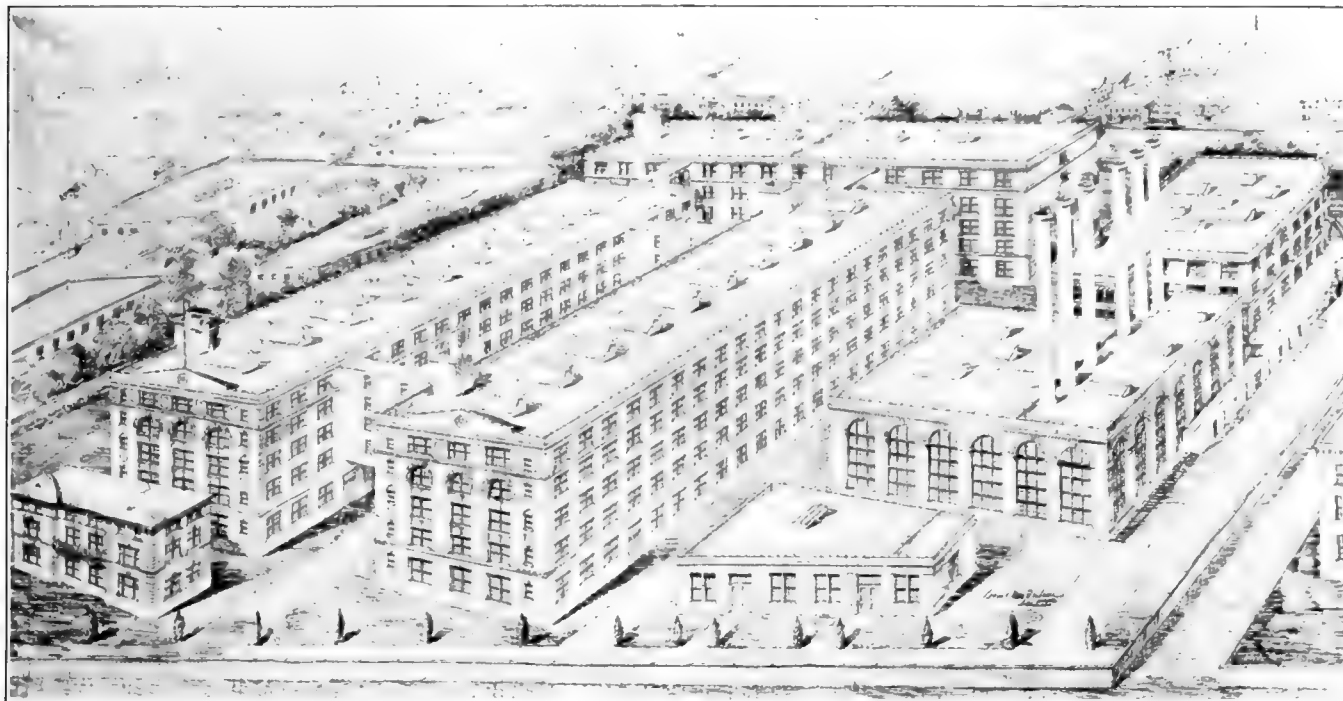
THE supreme court at Boston, by Judge Hammond, on April 16, sustained the demurrer of the directors in the Consolidated Plantations Co. of Ubero, in the action brought against them by Hugh W. Ogden and Jeremiah Smith, Jr., receivers of the company, to recover moneys which the receivers allege were unwarrantably expended owing to the negligence of the directors. Suits were brought against the directors on the ground that they did not repudiate a contract made by the Ubero company with the Tropical Securities Co., whereby large sums were paid to the latter, purporting to be for development work on the Ubero estates in Mexico, but really, as the plaintiffs allege, for the benefit of William D. Owen, and his associates, to the detriment of the investors in the Ubero company. Judge Hammond held that the grounds for maintaining the bill of complaint are ineffective, because the contract was made with a full knowledge of all the facts pertaining to the situation on the part of those who were then interested in the plaintiff. His Honor says that on the evidence before him he did not see any fraud on the part of the directors, and that where there is no fraud, no one can be defrauded. Leave is given to the receivers of the Ubero company to amend their bill, within certain limits outlined in the decision.

RUBBER CONCESSIONS IN JOHORE.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I am instructed to inform you that the Sultan of Johore, acting on the terms of the concession granted to the Malay Peninsula (Johore) Rubber Concessions, Limited, has appointed Mr. Karl Kirchberger, director and manager of Messrs. Katz Brothers, Limited, of 49 Lime street, E. C., as his nominee on the board of that company. I should be glad if you would kindly notify this in your columns. I am, Dear sir, Yours faithfully,

A. E. MOREMAN, Secretary.

13, Rood lane, E. C., London, April 10, 1906.



THE NEW MORGAN & WRIGHT FACTORY.

THE illustration on this page gives a general view of the plant of the Morgan & Wright Co. of Michigan, now being erected at Detroit, and based upon the architect's drawing. Important progress has been made in the construction of the plant, the principal buildings having been completed, and it is planned to begin manufacturing on or about July 1 next. The decision to remove the Morgan & Wright rubber factory from Chicago, where it was so long successfully operated, has been fully reported in these pages. One reason for the change was that leased premises were occupied in Chicago, and in looking for a new location, the city of Detroit appeared to possess exceptional advantages.

A new corporation was formed, therefore, with a much larger capitalization than had been employed in the past, and buildings and equipment were planned to adapt the plant to an increased scale of manufacture and a wider range of products. Morgan & Wright were identified originally with bicycle tires, of which they became the largest producers. With the advent of the automobile they took up the auto tire extensively, and they are now planning to add plumbers' supplies, druggists' sundries, and mechanical rubber goods.

The Detroit plant will comprise three main buildings, each 350 feet long by 60 feet wide, and having a height of five stories. These, with the smaller buildings such as the offices, boiler house, engine house, etc., will give the company about 300,000 square feet of floor space. Only part of the equipment of the Chicago plant will be removed, and most of the machinery at Detroit will be entirely new. The motive power will be furnished by twelve 250 HP. boilers, and two engines of 2000 HP. each. Architecturally the plant will be attractive through the use of white pressed brick with stone trimmings.

The officers of the new company are Charles H. Dale,

president; Charles J. Butler, vice president; Herbert Bowen, secretary and treasurer; Ernest Hopkinson, assistant secretary and treasurer. These with Charles A. Hunter, constitute the board of directors. The factory will be under the management of Vice President Butler, who will be assisted by G. A. Burnham as general superintendent.

The new factory will be particularly favored in the matter of shipping facilities. It faces on the Detroit river, which is of sufficient depth to admit the largest vessels to the company's own docks. Besides, there is a belt line railroad running through the yards and connecting with the Michigan Central and all other railroad lines touching Detroit. The plant covers 8½ acres of land. The new company is further referred to in the annual report of the Rubber Goods Manufacturing Co., printed on another page of THE INDIA RUBBER WORLD.

ANOTHER OLD TIME RUBBER MAN.

AMONG the congratulatory letters received by Mr. Theodore E. Studley on his seventy-fifth birthday—reported in the last INDIA RUBBER WORLD—was one from Mr. Francis H. Holton, of Akron, Ohio, a rubber man with more than 74 years to his credit. Mr. Holton wrote, among other things:

"I thought I was the oldest one left in the rubber line. I commenced handling crude rubber shoes in 1846. I see you go back to 1842. We both know how we had to trim and make salable the old shoes that were made in Brazil in those days. My uncle was agent for the Colchester Rubber Co. [then the Hayward Rubber Co.] and I had to take out of the case the shoes and wash the bloom off and repack. I had about a dozen girls to do the washing and I had to see that they were put back properly into cases." [A fuller reference to Mr. Holton's first connection with rubber appeared in THE INDIA RUBBER WORLD, July 1, 1901—page 309.]

RECENT RUBBER PATENTS.

UNITED STATES OF AMERICA.

ISSUED MARCH 6, 1906.

- N**O. 814,068. Pneumatic tire [comprising a series of air chambers, with means of communication between them]. F. G. McKim, London, England.
- 814,087. Vehicle wheel [with rim having a detachable flange, designed for a pneumatic tire]. F. A. Seiberling, Akron, Ohio.
- 814,088. Vehicle wheel. *Same*.
- 814,143. Tire shoe. E. Krebs, Albany, N. Y.
- 814,164. Resilient vehicle tire. J. F. Rau, assignor of one-half to J. F. Cordes, both of Chicago.
- 814,175. Sectional tire. F. G. Urfer, Portland, Oreg.
- 814,181. Artificial breast [comprising a substantially hermetically sealed casing of rubber containing air and readily compressible elastic solid material]. Laura J. Wolfe, Columbus, Ohio.
- 814,235. Tooth brush with rubber bulb. M. Rosenstein, Medford, Mass.
- 814,377. Shoe for pneumatic tires. J. W. Hyatt, Newark, N. J.
- 814,416. Fabric belt for conveyors. [Described in THE INDIA RUBBER WORLD, April 1, 1906—page 233.] John J. Voorhees, Jersey City, N. J.
- 814,484. Inhaling apparatus. A. Velschow, Oakland, Cal.
- 814,487. Milking appliance. R. Wallace, Castle Douglas, Scotland.
- 814,518. Life saving apparatus. C. Carlsen, Bodo, Norway.
- 814,520. Fountain pen. R. Conklin, Toledo, Ohio.
- 814,608. Hose clamp. J. E. Johnson, assignor of one-third to J. M. Dalhaug, both of New Paynesville, Minn.
- 814,620. Ventilating apparatus [for railway cars]. E. L. Parrish, Crockett, Tex.

Trade Marks.

- 9,281. Rubber for dental purposes. Traun Rubber Co., New York city. *Essential feature*.—The word IDEAL.
- 10,678. Combs. Dr. H. Traun & Söhne, Hamburg, Germany. *Essential feature*.—The representation of a man sawing a log of wood with a comb.
- 11,580. Waterproofing paint. Toch Brothers, New York city. *Essential feature*.—The word KONKERIT.
- 13,563. Golf balls. A. G. Spalding & Bros., New York city. *Essential feature*.—The word DOT.
- 13,904. Rubber belting. Gorham Rubber Co., San Francisco. *Essential feature*.—The word AMAZON.
- 16,152. Elastic foot coverings for horses. M. Hallanan, New York city. *Essential feature*.—The words PAN AMERICAN.
- 16,777. Hard rubber combs. American Hard Rubber Co., New York city. *Essential feature*.—The word MARCEL.
- 16,778. Hard rubber combs. *Same*. *Essential feature*.—The words SQUARE DEAL.

ISSUED MARCH 13, 1906.

- 814,675. Process of extracting rubber and the like from wood. A. V. de la Corte, San Luis Potosi, Mexico.
- 814,715. Faucet attachment [with rubber mouth]. H. M. Lummis and F. W. Hergert, Elizabeth, N. J.
- 814,729. Cushion tire. R. E. Ratbun, Sioux City, Iowa.
- 814,782. Horseshoe. G. Hauf, Milwaukee, Wis.
- 814,795. Elastic bandage. H. Myers, Philadelphia.
- 814,798. Tire protector. H. P. Palin, North Attleboro, Mass.
- 814,805. Fountain pen. E. de la Rue, London, England.
- 814,820. Atomizer. W. H. Wood, Cleveland, Ohio.
- 814,829. Air cushion [comprising a central ring, a plurality of inflatable bags connected therewith, and an inflating tube connecting the outer end of said bags]. Harriet A. Carl, West Fulton, N. Y.
- 814,837. Pneumatic dust removing and collecting apparatus. E. H. Fenton, Kansas City, Mo.
- 814,899. Rubber eraser [for lead pencil]. A. Brauns, Green Bay, Wis.
- 814,914. Overshoe for horses. J. J. McElhenny, Philadelphia.
- 814,943. Conveyer belt [composed of an upper surface of mineral tanned leather and a rubber and canvas body to which the up-

per surface is integrally secured]. M. H. Cook, San Francisco.

- 814,990. Fountain pen. J. Sinnott, Chatham, Ill.
- 815,186. Dress shield. L. Lockie, San Francisco.
- 815,192. Sprayer. F. Mercer, Marton, New Zealand.
- 815,209. Vulcanizer [for repairing tires]. J. M. Padgett, Topeka, Kans.
- 815,217. Fountain pen. J. R. Robinson, Elmira, N. Y.
- 815,218. Fountain pen. *Same*.
- 815,279. Vehicle tire [having a pneumatic tube within a metal tube, and supported by the felly.] H. C. Folger, West Somerville, Mass.
- 815,319. Tire case. H. R. Teel, Medford, Mass.

Trade Marks.

- 5,169. Rubber packing. Gorham Rubber Co., San Francisco, Cal. *Essential feature*.—The figure of a black person seated upon a section of spiral packing and holding in one hand a spear. Above the figure the word AMAZON and the words SPIRAL and PACKING appear, respectively at the left and right of the figure.
- 10,371. Insulated wire and adhesive tapes commonly used for insulating. New York Insulated Wire Co., New York city. *Essential feature*.—A central disk surrounded by concentric circular bands, all of contrasting colors, with the words WHITE CORE upon the intermediate band the words INSULATED WIRE on the outer band and the words GRIMSHAW half in light on the outer band and half in dark on the inner band.
- 13,489. Rubber erasers. E. Faber, New York city. *Essential feature*.—The representation of a circumferential band of yellow or gold color contrasting with a darker color on each side thereof and produced upon a metallic band or holder.
- 14,575. Rubber cement. Montgomery Bros., Inc., Philadelphia. *Essential feature*.—The word PARAGON.
- 14,576. Rubber cement. *Same*. *Essential feature*.—The word RELIANCE.
- 14,577. Rubber cement. *Same*. *Essential feature*.—The word ARROW.
- 14,578. Rubber cement. *Same*. *Essential feature*.—The word VCI.
- 14,579. Rubber cement. *Same*. *Essential feature*.—The word AJAX.
- 14,580. Rubber cement. *Same*. *Essential feature*.—The word ANCHOR.
- 16,689. Elastic hosiery. J. Ellwood Lee Co., Conshohocken, Pa. *Essential feature*.—The letters J. P.

ISSUED MARCH 20, 1906.

- 815,346. Pneumatic tire. R. A. Harris, Tucson, Ariz.
- 815,366. Water bag or bottle. [Described on another page of this paper.] T. W. Miller, Akron, Ohio.
- 815,411. Atomizer or nebulizer. F. C. Dormont, assignor to National Vaporizer Co., both of Kalamazoo, Mich.
- 815,426. Bandage [for preventing the growth of a double chin]. Virginia E. Hardee, Beaumont, Tex.
- 815,430. Pneumatic tired wheel. T. B. Jeffrey, Kenosha, Wis.
- 815,435. Nipple for nursing bottles. Mary E. Knauff, Avalon, Pa.
- 815,476. Hose coupling. A. Schaffer, Columbus, Ohio.
- 815,495. Lawn sprinkler. O. P. Waggener, Klamath Falls, Oreg.
- 815,523. Cushion tire. F. G. Freese, Philadelphia.
- 815,572. Vehicle tire. J. K. Williams, Akron, Ohio.
- 815,627. Hose coupling. S. Oldham, Philadelphia.
- 815,713. Spraying device. H. L. Joslin, Eureka Springs, Ark.
- 815,721. Fountain pen. W. C. Luther, Newark, N. J.

Trade Marks.

- 3,655. Dress shields. I. B. Kleinert Rubber Co., New York. *Essential feature*.—The word OLYMPIA.
- 3,656. Dress shields. *Same*. *Essential feature*.—The word INVINCIBLE.
- 3,657. Dress shields. *Same*. *Essential feature*.—The word MID-SUMMER.
- 3,658. Dress shields. *Same*. *Essential feature*.—The word BEAUTY.
- 3,659. Dress shields. *Same*. *Essential feature*.—The words FEATHER WEIGHT.
- 3,661. Dress shields. *Same*. *Essential feature*.—The words THE GEM.

- 11,962. Reclaimed Rubber. U. S. Rubber Reclaiming Works of New York, New York. *Essential feature.*—A representation of a Maltese cross inclosed in a circle with the words RECLAIMED MATCHLESS RUBBER upon the cross.
- 13,963. Reclaimed rubber. *Same. Essential feature.*—A representation of a Maltese cross inclosing the capital letter D and the words RECLAIMED RUBBER.
- 14,162. Reclaimed rubber. *Same. Essential feature.*—The representation of a Maltese cross with the words RECLAIMED PEERLESS RUBBER arranged within the cross, the whole inclosed in a circle.
- 17,024. Insulated wires. Phillips Insulated Wire Co., Pawtucket, R. I. *Essential feature.*—The word PARAC on a background inclosed in concentric circles.
- 17,127. Rubber hose. Speck, Marshall & Co., Pittsburgh, Pa. *Essential feature.* The word ANVIL.
- 17,128. Rubber belting. *Same. Essential feature.*—The word INVINCIBLE.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each, postpaid.]

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1904.

* Denotes Patents for American Inventions.

[ABSTRACTED IN THE OFFICIAL JOURNAL, FEBRUARY 28, 1906.]

- * 23,788 (1904). Horse collar [with removable inflated bag enclosed in flaps]. W. Ost, Newark, New Jersey.
- 23,790 (1904). Pneumatic tire. [The air chamber consists of two separately inflated air tubes connected together by strips of canvas and rubber.] F. F. Nickolay and W. Milligan, Stowmarket.
- 23,893 (1904). Catheter and bougie. M. Allen, Liverpool.
- 23,898 (1904). Pneumatic tire safety valve. C. Cadon, La Clayette, Saone-et-Loire, France.
- 25,094 (1904). Heel protector. J. H. Welsenaar and L. F. Keyser, Haarlem, Holland.
- 24,213 (1904). Pneumatic tire. [A leather band, having transverse slits through which are passed metal plates, is secured to the cover to prevent slipping and puncture.] A. Parker, Chorley, Lancashire.
- 24,255 (1904). Cover for pneumatic tire. [Crescent shaped pieces of leather spiked and solutioned and fastened together to present a serrated surface.] W. Jenkinson, G. E. Jenkinson, J. W. Scurie, and H. E. Smith, London.
- 24,274 (1904). Pneumatic tire. [To force the second beaded edge of the jacket into the rim, the blunt hook of a lever is inserted inside the inner edge of the wheel rim.] E. E. Michelin, Clermont-Ferrand, France.
- [ABSTRACTED IN THE OFFICIAL JOURNAL, MARCH 7, 1906.]
- 24,525 (1904). Means for inflating tires. R. A. Fletcher, Birmingham.
- 24,580 (1904). Fender constructed of solid rubber for preventing damage to motor vehicles. F. R. Simms, London.
- 24,691 (1904). Device for vulcanizing India-rubber. C. F. Kite, London.
- 24,696 (1904). Affixing stamp. J. Purkiss, Wellington, New Zealand.
- * 24,756 (1904). Horseshoe cushion or pad. H. Bartley, Pittsburgh, Pennsylvania.
- * 24,757 (1904). Horseshoe cushion or pad. *Same.*
- * 24,778 (1904). Apparatus for vulcanizing India-rubber boots and shoes. G. F. Butterfield, Boston, Massachusetts.
- 24,864 (1904). Protector for preventing tire inner tubes from blowing out. T. Sloper, Devizes, Wiltshire.
- 24,865 (1904). Covers for spare tires. *Same.*
- * 24,891 (1904). Reservoir pen. F. C. Brown, New Brighton, New York.
- 24,966 (1904). India-rubber substitute. [Gelatinous matters with or without pitch, tar, asphalt, oil residues, are treated with alkali and precipitated with acid, and the precipitate is digested with vegetable or mineral oil diluted with naphtha. A rubberlike mass is left on distilling off the naphtha.] L. H. Jacobs, T. G. Jacobs, and C. S. Brockwell, London.
- 24,988 (1904). Improvement in protective treads for pneumatic tires. C. Watkins, Woodford bridge, Essex.
- 25,115 (1904). Apparatus for vulcanizing covers and inner tubes of tires. W. B. Lake and E. F. Elliot, Braintree, Essex.
- [ABSTRACTED IN THE OFFICIAL JOURNAL, MARCH 14, 1906.]
- 25,368 (1904). Vulcanizer for covering or retreading pneumatic tires. [Constructed with a vulcanizing chamber arranged in contact with the walls of a steam generator formed by two dished plates, fitted with a pressure gage and safety valve.] H. H. Frost, London.
- 25,707 (1904). Boot. [Non-slipping surfaces for boots constructed with layers of fabric embedded in rubber, the fabric conforming to the shape of the outer surface.] R. M. Howison, London.
- [ABSTRACTED IN THE OFFICIAL JOURNAL, MARCH 21, 1906.]
- 25,740 (1904). Protective tread for pneumatic tire [consisting of a series of gaiters, each composed of links of leather]. T. Davage, Kenwood Park road, Sheffield.
- 25,761 (1904). Pneumatic tire. [Blocks of metal are riveted to the cover, and dovetailed in two directions, and are shaped to form a flat tread.] W. J. Yapp, Kenley, and E. H. Girling, London.
- * 25,771 (1904). Pump valve. [A discoidal valve of soft rubber is provided with a central metal piece.] O. H. C. Arendt, Newark, New Jersey.
- 25,777 (1904). Elastic tire. D. C. Thomas, Llanishan.
- 25,790 (1904). Molding India-rubber. [In the manufacture of hollow articles from rubber by gaseous pressure generated in the articles during molding, the pressure is relieved, prior to the removal of the articles, by inserting a pin through a small hole closed by a stud having a blunt point flush with the interior of the mold.] P. Schou, Copenhagen, Denmark.
- 25,806 (1904). Hose pipe. [A clip for stopping leaks in hose comprises a band of canvas.] J. Plowman, Kingston-upon-Hull.
- 25,840 (1904). Heel protector. N. Weaver, Streatham, Surrey.
- 25,863 (1904). Pneumatic tire. [To prevent slipping non extensible rings of smaller diameter than the tire are put between the layers of canvas of the cover, so that the inflated tire has two or more treads.] W. Vale, Sparkhill, Birmingham.
- * 25,867 (1904). Elastic tire. [Relates to a hollow rubber tire composed of a number of independent arc sections so that in the event of one being damaged it may be replaced.] E. Gates, Modesto, California.
- * 25,962 (1904). Elastic tire [the base of which, formed with seats for retaining wires, fits on a rim formed with side flanges]. J. H. Toole, Chicago, Illinois.
- 25,964 (1904). Spring wheel, the resiliency of which is enhanced by the use of rubber cushions. E. N. Henwood, London.
- 25,972 (1904). Electric coupling. [To protect conductors and insulation of flexible cords at the point of attachment to electrical apparatus, covers of rubber are provided.] S. S. Galsworthy, London.
- * 26,005 (1904). Machinery for waterproofing hose and the like. [The system was illustrated in THE INDIA RUBBER WORLD March 1, 1906—page 181] W. R. Smith, Buffalo, New York.
- 26,056 (1904). Pneumatic cushioning device, for absorbing shocks to vehicles. A. Pulbrook and E. H. Pulbrook, Hammersmith.
- 26,090 (1904). Elastic tire. [An outer rigid rim suspended from an inner rim by means of flat rubber rings.] E. Kingsnorth, Greenwich.
- * 26,150 (1904). Pneumatic tire, designed to be readily attached or detached. P. D. Hall, Akron, Ohio.
- 26,159 (1904). Ventilating rubber heels. S. Stephan, London. (J. Schmidt, Paris.)
- [ABSTRACTED IN THE OFFICIAL JOURNAL, MARCH 28, 1906.]
- 26,400 (1904). Pneumatic tire. J. Partington, Yorkshire.
- 26,402 (1904). Tread for pneumatic tire [constructed of links of leather connected by pins and attached to the cover]. Century Tanning Co. and S. D. Jones, Wrexham.
- 26,421 (1904). Horseshoe. [Fibrous material impregnated with rubber solution and cemented in a groove formed in the under side of the shoe.] W. Lowen, London.
- * 26,449 (1904). Electric insulator. [Telephone wires are protected from blows by covering them with a case of metal, which is separated from the insulator proper by rubber washers.] S. B. Flynt and L. A. Maiden, Meridian, Mississippi.
- 26,504 (1904). Reservoir pen. F. C. Edgar, Cotham, Bristol.
- 26,516 (1904). Truss for hernia. W. Wagner, Kreuznach, Germany.
- * 26,558 (1904). Horseshoe cushion or pad. H. Bartley, Pittsburgh, Pennsylvania.

- 25,569 (1904). Means for attaching studded bands, used to prevent side slip, to pneumatic tires. E. P. Prestwich, Kenilworth.
- 26,676 (1904). Tire vulcanizer. [In an apparatus for vulcanizing rubber tires, covers, etc., an annular chamber contained within annular walls and closed by a segmental plate is heated from below by a ring burner.] G. W. T. Leeson, Birmingham.
- * 26,683 (1904). Vehicle wheel. [A rim which is adapted to secure beaded tires consists of reversible hooked flanges which are tightened on the base.] F. A. Seiberling, Akron, Ohio.
- * 26,684 (1904). Means for securing elastic tires to wheel rims. *Same.*
- 26,711 (1904). Spring wheel for vehicles, for use with or without a rubber tread. W. G. Hicks, Bracknell, Berks.
- 26,783 (1904). Waterproof inner sole for boots. W. Schrimshaw, Boston.
- 26,831 (1904). Golf ball. R. F. Hutchison and C. A. Hutchison, Prestwick, Ayrshire.
- 26,888 (1904). Abdominal belt. E. A. Leotard, Paris.

THE FRENCH REPUBLIC.

PATENTS ISSUED (WITH DATES OF APPLICATION.)

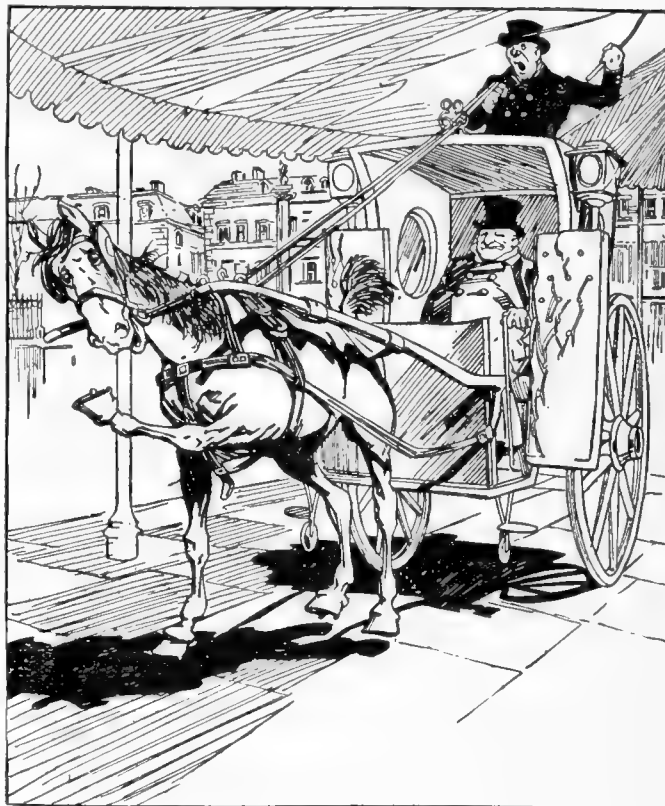
- 357,698 (Sept. 13, 1905). R. Meazier. Double tub.
- 357,707 (Sept. 13). Smith. Leather tire.
- 357,726 (Sept. 14). Société Générale des Etablissements Bergougnan et Cie. Arrangement for keeping a constant temperature in pneumatic tires.
- 357,735 (Sept. 14). Criantafillis. Self sealing pneumatic.
- 357,748 (Sept. 15). G. G. Crannoy. Anti skid tire.
- 357,750 (Sept. 15). Brisson and Schmitt. Anti skid tread.
- 357,805 (Sept. 16). H. P. Jurup. Tire protector.
- 357,816 (Sept. 18). D. H. Hislop. Pneumatic tire.
- 357,828 (Sept. 18). E. Arcelin. Pneumatic tire.
- 357,887 (Sept. 20). L. Cavrel. Elastic tire.
- 357,902 (Sept. 20). G. Perruchon. Spring wheel.
- 357,765 (Aug. 22). A. Ducasble. Rubber reclaiming.
- 357,993 (Sept. 23). R. E. H. James. Elastic tire.
- 358,032 (Sept. 26). C. L. Lerefait. Elastic wheel.
- 358,057 (Sept. 26). L. Boirault. Elastic wheel.
- 358,089 (Sept. 27). J. Desouches. Skid tread for solid tires.
- 358,100 (Sept. 28). Société Michelin et Cie. Skid rivets.
- 358,018 (Sept. 27). A. Alexander. Dissolving and reclaiming rubber.
- 358,123 (Sept. 16). A. Deperraz. Pneumatic spoke wheel.
- 358,159 (Sept. 29). E. Desbief. Pneumatic cushion wheel.
- 358,238 (Oct. 3). E. Olivier. Elastic tire.
- 358,240 (Oct. 3). Société Michelin et Cie. Device for putting on tires.
- 358,246 (Oct. 3). MacCarthy, Morris, and MacOstrich. Anti leak tires.
- 358,254 (Oct. 4). McConechy. Elastic tires.
- 358,290 (Oct. 5). Wyttten Dade. Device to prevent blowouts.
- 358,381 (Oct. 9). C. Nielsen. Method of attaching rubber to metal pipes.
- 358,329 (Oct. 6). C. C. Gouin. Elastic tire.
- 358,354 (Oct. 7). D. Charleston. Pneumatic tires.
- 358,356 (Oct. 7). E. Houdet. Detachable rim.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Bobet, Ingenieur-Counsel, 16 avenue de Villiers, Paris, at 50 cents each postpaid.]

ALONG with the consolidation of the Austria-Hungarian rubber goods makers and some German firms [says *Gummi-Zeitung*, February 16] news comes through the Vienna papers, of a price convention of the bicycle tire interests. The consolidation took place recently in Berlin, and the importers of pneumatic bicycle tires into Austria-Hungary were then approached on the same subject. The allied dealers have decided to put the new trade scale into effect within the next two months.

A HORSE SURPRISED BY RUBBER.

GEORGE ADE, in a series of humorous observations by an American in Europe, in the *New York Herald*, includes the following in his notes from London, which the *Herald's* artist has illustrated with the drawing here reproduced:



RUBBER PAVEMENT.—The large covered court of the Savoy Hotel is paved with blocks of soft rubber three feet square. Constant procession of cabs in and out of court and rubber deadens sound. Good idea—should be used in all the streets of New York. New cab horse comes along—never has tackled rubber pavement—is clattering noisily over the asphalt—suddenly hits the soft rubber and begins to bounce up and down like a tennis ball. Strange look comes into horse's eye and he crouches like a rabbit, looks over his shoulder at the driver and seems to be asking, "What am I up against?" Mean trick to play on a green horse. Should be a warning sign displayed.

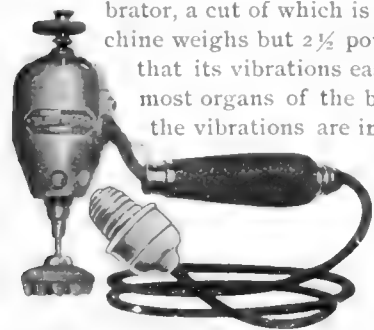
THE Rock Island Tropical Plantation Co. was organized in June at Rock Island, Illinois, and subsequently incorporated under the laws of Arizona, with \$2,400,000 capital, to grow rubber and other tropical products in the state of Oaxaca, Mexico, where it is reported to have acquired 12,000 acres of forest land. Hon. M. O. Williamson, of Galesburg, former state treasurer of Illinois, is president; E. A. Edlen, M. D., of Moline, vice president; Colonel John N. Williams, of Chicago, second vice president and general manager; Professor V. O. Peterson, of Augusta College, Rock Island, secretary; and Hon. Jonathan Merriam, of Chicago, treasurer.

THE firm of Newmann & Boeler has built a factory in Rothensburgport, Hamburg, for making rubber and asbestos goods.

NEW GOODS AND SPECIALTIES IN RUBBER.

A VIBRATORY MASSAGE DEVICE.

ONE of the manifold uses of rubber, and one with which people are daily growing more familiar, is its application to the art of massaging, now regarded with such favor by the medical profession. An appliance recently brought out for this purpose is the American Vibrator, a cut of which is shown herewith. The machine weighs but $2\frac{1}{2}$ pounds, yet it is so powerful that its vibrations easily penetrate to the innermost organs of the body. By turning a screw the vibrations are increased or modified as may be desired. This variability of stroke is a valuable feature and one that is not possessed by any other massaging machine. It has perfect adjustability of stroke and can be regulated to strike anywhere from 6000 to 16,000 strokes per minute. Its simplicity of construction renders it proof against derangement by even constant use, and it is sold under a guarantee against electrical or mechanical defects. A distinct advantage of this machine is that it can be easily carried in the coat pocket. [The American Vibrator Co., Chemical building, St. Louis.]



SOME NEW CANADIAN RUBBER HEELS.

Two brands of rubber heels that are growing in favor are the "Maltese Cross" and the "Lion," both Canadian products. In order to insure the proper wearing qualities and the highest degree of resiliency only the best grade of rubber is used in the manufacture of these popular heels. They are made in all sizes, to fit every standard style of shoe



made. The "Maltese Cross" heel is pure black throughout, while the "Lion" is gray. The importance of the Canadian trade in rubber heels is indicated by the fact that a leading manufacturer of rubber footwear engages in their production. [The Gutta Percha and Rubber Manufacturing Co. of Toronto, Limited, Toronto, Ontario.]

"EASTERN" BATTERY CONNECTOR.

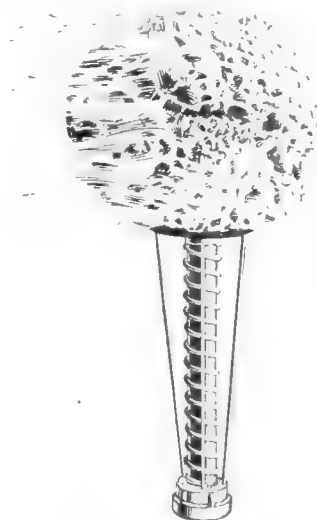
THE illustration relates to a device particularly adapted for service on automobiles, launches, or coaches, employing



electric batteries, where bumping, jolting, or vibration is excessive. Where there is the slightest vibration, ordinary connectors are liable to work loose, break the circuit, and in various ways cause trouble. The "Eastern" connector cannot loosen, because the rubber (shown in the cut), under pressure of the knurl nut, jams it so securely that no amount of vibration can affect it. The cut shows the actual size of the connector. [Eastern Carbon Works, Jersey City, New Jersey.]

THE "IDEAL" CARRIAGE WASHER.

WHAT appears to be an appropriately named product is the "Ideal" Carriage Washer. This washer is made upon new lines and possesses features which will commend themselves to those who use such implements. Hooks engaging the sponge are placed below the edge of a soft rubber cup, making it impossible to scratch or mar the finest finish. The inside of the cup is brass lined, as are also the holes through which the wires pass, making the wearing surface solid brass throughout. The sponge is compressed by means of a strong coil spring which is quick and positive in its action. The



WASHER WITH SPONGE.



SPRAY NOZZLE.

machine fits any ordinary hose connection, and is equally efficient in using water from a pail by means of a force pump. One distinct advantage is that the "Ideal" has a spray nozzle for softening the mud preparatory for washing. The device is adapted to many other uses. For example, with an extension handle, it makes an effective window cleaner. The water flowing through the sponge constantly insures clean water being used at all times, leaving the glass perfectly clear when finished. [Ideal Carriage Washer Co., No. 62 Lenox street, Rochester, New York.]

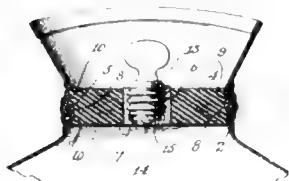
A PNEUMATIC ERASER.

A NOVELTY which will commend itself is a pneumatic eraser which not only erases, but also at the same time removes the free particles from the paper or other surface that is being cleaned. This saves time and labor, two points which are not to be ignored in this bustling, work-a-day age. This little device is com-

posed of a small bar of rubber through which one or more holes have been left for the passage of air. The air is forced through these ducts by means of a soft rubber bulb affixed to one end of the bar and compressed by the hand during the operation of erasing. United States letters patent No. 797,908 have been issued for this invention to Charles Edward McGill. [The Pneumatic Eraser Co., Owensboro, Kentucky.]

MILLER'S NEW RUBBER WATER BAG

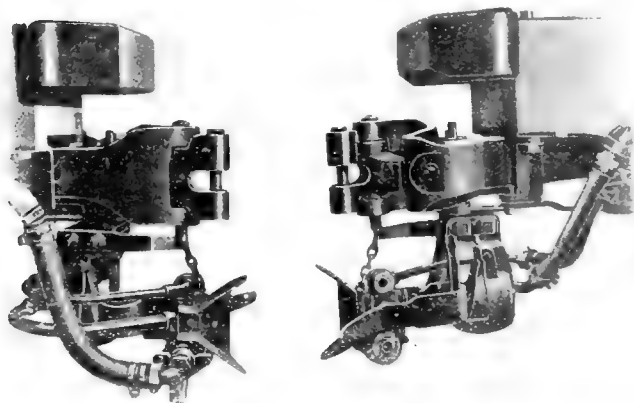
This is a water bottle or bag involving a new feature. The bag proper is of rubber and is shaped like pretty much all other vessels of this kind. The difference is in the top, or stopper, which in this case embodies a new idea. The head is covered with and held in position by a strip of friction fabric, which in turn has a wrapping of wire, the whole being covered with a finishing strip to add to its attractiveness and give it additional strength and durability. Thomas W. Miller, of Akron, is the patentee. [Faultless Rubber Co., Akron, Ohio]



AUTOMATIC COUPLER FOR TRAIN HOSE.

AUTOMATIC car couplers are by no means a new thing. Their adoption did much to reduce the number of men killed or maimed annually while engaged in the ever hazardous work of making up trains. But in the use of air brake hose there remained a constant menace to the life and limb of the men whose duty it was to join the hose ends between the cars after the coupling had been accomplished. Now the danger from this source has been wiped out, through the introduction on several leading railroads of an automatic coupler for air hose and steam hose. A comparison of figures shows that the cost of maintenance under the new system is materially less than that of the ordinary connections with hand couplings.

The coupler head is of malleable iron, having V and wedge shaped guides projecting toward the front and an outwardly bent spring firmly riveted to the back; the spring projecting toward the front on the opposite side of the head from the V shaped guides. The face of the coupler is parallel to the longitudinal axis of the car and has the various openings



AUTOMATIC COUPLER FOR TRAIN HOSE

in the face machined to receive gaskets. The face of the head is so arranged and the gaskets so placed that the latter do not touch those of the opposing member while coupling, but are held apart until the moment of registering, when they are firmly brought together. This protection is afforded by tongues and grooves in the coupler faces, holding the gaskets apart until they are in position to register, when the tongues of each head drop into the corresponding grooves in the opposite face, thus bringing the gaskets firmly together and shielding them from wear. An excellent idea of this device may be obtained from the subjoined cut. [Westinghouse Automatic Air and Steam Coupler Co., St. Louis.]

NEW TRADE PUBLICATIONS.

THE CLEVELAND RUBBER WORKS of the Mechanical Rubber Co., (Cleveland, Ohio) issue a comprehensive and well got up Packing Catalogue, devoted to their extensive line of "Marco" packings. They have adopted the word "Marco" as a trade mark which is now applied to all their packings. The catalogue goes into detail regarding compounds, methods of manufacture, and the like, beside describing and illustrating fully the distinctive features of each of the various packings. [5"×7½". 60 pages.]

JOHN ROYLE & SONS (Paterson, New Jersey), widely known in the trade as manufacturers of tubing machines in great variety, issue a catalogue of Fixtures for such machines, which field alone has become extensive, owing to the extended use of these machines in many different sizes, rendering desirable dies and cores available for use in different machines. The book is illustrated and includes prices. [6½"×9¼". 82 pages.]

JOHN A. ROEBLING'S SONS CO. (Trenton, N. J.) issue a catalogue entitled "Some Roebling Products," which concludes: "Among the most important Roebling products are insulated wires and cables. A large part of our works is used in the manufacture of these materials, which include weatherproof, magnet, rubber-covered, and many other insulated wires; also submarine, power, and telephone cables." [6"×3½". 36 pages.]

ALSO RECEIVED.

THE Mitzel Rubber Co., Carrollton, Ohio.—Net Price List. 11 pages.

Firestone Tire and Rubber Co., Akron, Ohio.—Firestone Pneumatic Tires. 15 pages.

Woven Steel Hose and Rubber Co., Trenton, New Jersey.—Rubber Hose, Packing, Perforated Mats, Corrugated Matting, etc. 28 pages.

The Fisk Rubber Co., Chicopee Falls, Massachusetts.—Fisk Automobile Tires. 20 pages.

STERILIZING RUBBER GLOVES.—A hospital superintendent of experience submits the following regarding the sterilizing of rubber gloves: Wash new gloves with wool or ivory soap in tepid water; wash the inside as well. Dry by gentle friction with a soft towel; then powder with commercial talcum, narrow pieces of gauze being dropped into each finger to avoid contact. Each glove is placed in a towel, separate. Sterilize under pressure the same as for gauze, one-half hour, and dry in the sterilizer. Sterilize talcum powder at the same time, to be dusted on when applying, if the surgeon or nurses desire it. — *National Hospital Record*.

RUBBER USED IN MAKING HATS.

RUBBER hat bags are used in the process of making practically all the stiff (or derby), straw and soft felt hats that are worn to-day. Until comparatively recent years very little machinery was utilized in the manufacture of the derbies and soft hats, but the frequent reductions in the cost of production, in order to meet the demand for cheaper hats, made it necessary to go more and more into machinery. Today the rubber hat bag has become an essential part of the machines used in shaping hats.

Notwithstanding the extensive use of hat bags, the hat bag business is not so large as one might imagine. When one considers that a hat manufacturing company, like Dunlap's, in New York, for example, makes annually about 240,000 hats with the use of but nine machines, that six of these machines are each equipped with bags which wear on the average of eight months, and that the remaining three are each equipped with bags which wear about seven weeks, he will understand that the hat bag business is small, as compared with other branches of the rubber trade.

Rubber hat bags are used in hydraulic presses to size and shape hats. Owing to the high elasticity of rubber and to the law of hydrostatics, the pressure, usually about 300 pounds, is distributed equally and stretches the hat to the exact shape and size of a steel die.

The relative positions of the die, hat bag and other principal parts of the hydraulic pressing apparatus are indicated in the accompanying cut of a machine made by M. A. Cuming, of New York, showing the rubber hat bag; the metal box surrounding the steel die; the metal dome into which water passes before it enters the bag; and the hose through which pressure is applied by means of steam pump. The hat is placed in the die and the dome with hat bag attached descends so that the bag is surrounded by the felt. The pressure is then applied by turning a faucet; after the pressure has been applied for about a minute, it is removed by turning another faucet. This is the principle on which all hat bags are used.

The shapes of hat bags vary according to the purposes for which they are used, which are either to crown the hat or to curl the rim, or, as in case of ladies' straw hats, to give the hat its general shape.

Another figure represents cross sectional views of a bag (made by The B. F. Goodrich Co.), used to crown derby hats. The rim of this bag is often protected by an apron, which is simply a bag rim minus the crown. The apron is slipped over the crown and serves as a shield against the hard metal surface surrounding the die. Among other shapes of hat

bags are those used in shaping straw hats and soft felt hats. Those used for making straight rimmed straw hats resemble the ordinary derby crowning bag, while those used in making the curved straw hats worn by women are, of course, more complete.

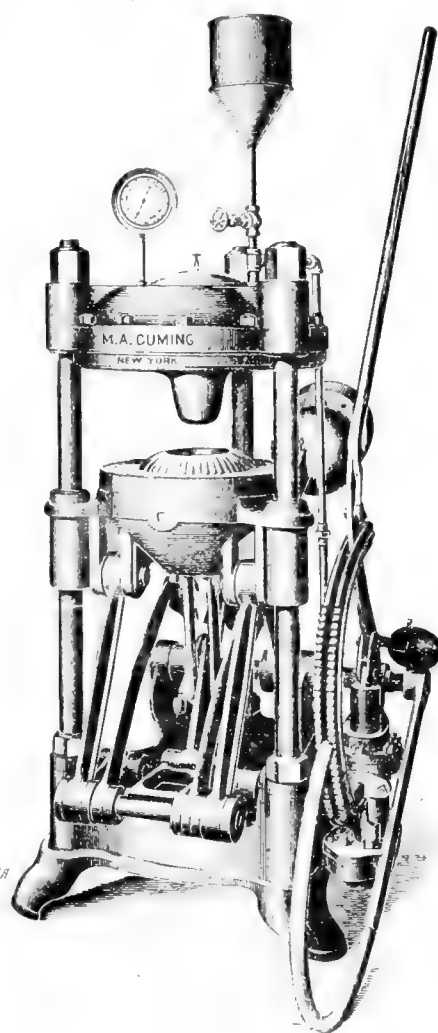
The most common form of hat bag next to the ordinary derby crowning bag is the curling bag, used to curl the rims of hats. It is attached to the metal dome like the crowning bag; that is, with convex surface depending, and when it descends presses against a metal form which lies on the hat rim supported on a steel die. These curling bags are used in curling the rims of both derbies and soft felt hats, and are shaped according to the style of rim. The shapes of hat bags, then, are many, and vary according to whether they are used for crowning or curling, with due regard for the style desired.

As to durability of hat bags, it depends largely upon the skill of the workmen. Some bags have been known to burst within 5 minutes; others have worn as long as 18 months. The consumers generally agree, however, that the average

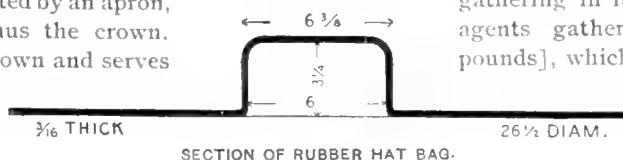
length of wear of the crowning bag is about 8 months. The life of the curling bag is much shorter, being on the average about 6 or 7 weeks. A hat bag is sometimes mended six or seven times before it is discarded. Some hat manufacturing concerns have in their employ rubber experts who not only mend, but make hat bags, being supplied with sheet rubber for the purpose.

Owing to the great strain to which the rubber is subjected, the kind used is invariably the best. The fact that bags are used on steam heated dies in the manufacture of straw hats does not affect their durability, as they are always shielded from the heat by an asbestos leather covering.

Hat bags are manufactured by several of the mechanical rubber goods manufacturing companies. Among the leading hydraulic manufacturers of hat pressing machines are M. A. Cuming & Co., and The Turner Machine Co. of Danbury, Conn., the latter being a branch of J. Turner, Denton, England.



HYDRAULIC HAT PRESS.



MOZAMBIQUE.—The last annual report of the Companhia de Moçambique shows a credit balance, instead of the annual deficits hitherto. Enterprise in Mozambique is attended by many difficulties, but this great Portuguese company has vigorously plodded on until it seems to have paved the way to success. The report mentions an increase in rubber gathering in its territory. During the year its agents gathered 18,502 kilograms [=40,790 pounds], which was sold in Europe at a profit of £3920 18s. [= \$19,081 06], or an average of 46 3/4 cents per pound.

THE NEW JERSEY RUBBER INDUSTRY.

BY A RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: A rather remarkable condition exists in the rubber industry of Trenton. The falling off in trade which has usually occurred about this time of the year has not been experienced this season. Instead of the usual slump, orders have come without cessation, and the increase of business has been so great that some factories are compelled to run five nights in the week and even then are unable to keep up to date on shipments. Manufacturers are complaining of the scarcity of help of the better class.

Mr. W. H. Harding, of the Consolidated Rubber Co. (Trenton) said to THE INDIA RUBBER WORLD correspondent, that he had never seen the rubber business apparently so prosperous. The volume of business done by his company in the first three months of this year was larger by 40 per cent. than for the same months of 1905. The amount, he said, would have been even greater had the company been able to get the goods.

The constant additions to the list of articles made of rubber is given as one reason why the factories all along the line are so busy. New things are continually making their appearance and new uses found for rubber articles. One factory is running an all night force turning out croquet balls and roller skate wheels.

The rubber trade of Trenton responded promptly to the call for aid for the victims of earthquake and fire in San Francisco. The rubber trade committee of the general citizens' relief committee is composed of the following: Watson H. Linburg (chairman), General C. Edward Murray, Welling G. Sickel, William S. Hancock, George R. Cook, Edmund D. Cook, John S. Broughton, W. J. B. Stokes, and H. Oakley. At this writing the various rubber companies in the city have subscribed about \$2500 to the San Francisco relief fund.

The Stockton Rubber Co., of Stockton, Hunterdon county, which was burned out January 1, has resumed operations and is now working to full capacity. The company was organized and started the reclaiming of rubber by the acid process about December 1. The new buildings now being completed are fireproof. Mr. D. J. Price, the superintendent and general manager, was superintendent for the New Jersey Rubber Co. (Lambertville) for 14 years.

Articles of incorporation have been filed in Trenton of the Metropolitan Rubber Co., with registered office at No. 240 Orient avenue, Jersey City; agent in charge, Edmond G. McKinley. The authorized capital is \$250,000. The incorporators are William F. Ackerman, H. K. Westervelt, and Edward A. Westervelt. The company is to manufacture and deal in rubber goods of all kinds.

Mr. F. M. Hamerstrom, general manager of the Trenton Rubber Manufacturing Co., whose brother is a reporter on the San Francisco *Examiner*, received a telegram from him on April 20 announcing that he was safe in Oakland.

The report that the Hamilton Rubber Manufacturing Co. (Trenton,) had absorbed the Combination Rubber Manufacturing Co. (Bloomfield), was substantiated on April 20, when the Combination company filed a certificate in the office of the secretary of state at Trenton increasing its authorized capital stock from \$150,000 to \$500,000. The consent to the

increase was signed by the following stockholders: Hamilton Rubber Manufacturing Co., by E. D. Cook; Edmund D. Cook, Charles Howell Cook, Edward H. Garcin, W. L. Blodgett, and William H. Servis. William L. Blodgett was named as registered agent.

The Guardian Rubber Manufacturing Co., a New York state corporation, filed a certificate with the secretary of state at Trenton, April 20, under which it secured permission to transact business in New Jersey. The capital of the company was given as \$25,000, of which \$21,000 is actually issued and outstanding. The New Jersey office will be at its manufacturing plant in the factory of A. J. Ellis & Co., at West New York.

The factory of the Raymond Rubber Co., at Titusville, was partially destroyed by fire of an unknown origin on April 2. The blaze was discovered shortly before 4 o'clock P. M. Aid was asked from Lambertville and Trenton, and a steamer was sent from each place. Before they had succeeded in checking the flames the upper section of the mill was in ruins. The engine rooms and its machinery escaped damage. The plant is owned by the Agnew family and it is understood plans for a larger factory are under way.

Trenton is to add one more rubber concern to its already large list. The club house of the Trenton Athletic Club, on Prince street, East Trenton, has been purchased by Newman London, of New York, and the large arena once the scene of many prize fights, will be devoted to the rubber reclaiming business. Alterations will be made in the building and a thoroughly up to date outfit for the reclaiming operations will be installed.

The Lambertville Rubber Co. are operating their plant on full time. The company have just added a new department to their business—the manufacture of ladies' overshoes—and the new line has given sufficient work for all the employes to go on full time. Orders for the next season's wear are also coming in and they anticipate a busy summer.

Contracts have been given out for the erection of a new wash mill and cook house on ground recently purchased by the New Jersey Rubber Co. at Lambertville. The growth of business has been so rapid with this company that they have outgrown their quarters, making more room necessary.

The United and Globe Rubber Manufacturing Cos. continue to make improvements in their equipment, to better take care of increasing trade. Six large new double deck presses are being set up and will greatly facilitate production in this line. A fire brigade has also been organized and equipped with hose reel, extinguishers, etc., in addition to the other factory fire fighting appliances.

MATTSON RUBBER CO. GO TO NEW JERSEY.

THE Mattson Rubber Co. (New York), who were recently burned out of their home at No. 26 West Broadway, have taken a ten years' lease on a portion of the plant of the Hardman Rubber Co. (Belleville, New Jersey), and removed their business to the latter location. The new premises have been remodelled to meet the requirements of the Mattson company.

The Hardman Rubber Co. (Belleville, N. J.) have discontinued their soft rubber goods department, and will confine their attention hereafter to the manufacture of hard rubber goods—a branch in which they have had very satisfactory results. Otherwise no change is being made in the conduct of the Hardman Rubber Co.

NEWS OF THE AMERICAN RUBBER TRADE.

RUBBER SUNDRIES MAKERS MEET.

THE annual meeting of the Rubber Sundries Manufacturers' Association was held on the morning of April 12 at the Hotel Astor, New York. The organization having been formed solely for sociability and the interchange of goodfellowship among the members, no particular business significance attached to the meeting. The election of officers was the most important item on the routine list. Those chosen were:

President—GEORGE F. HODGMAN, of the Hodgman Rubber Co., New York.

Vice President—HOWARD E. RAYMOND, of The B. F. Goodrich Co., Akron, Ohio.

Secretary—EDWARD E. HUBER, of the firm Eberhard Faber, New York.

Treasurer—FREDERIC H. JONES, of the Tyer Rubber Co., Andover, Mass.

Executive Committee—Joseph Davol, of the Davol Rubber Co., Providence, R. I.; Henry E. Burton, of Parker, Stearns & Co., New York; LeBaron C. Colt, of the National India Rubber Co., Bristol, R. I.; together with the officers of the Association.

In each case it was a unanimous reelection. The formalities having been disposed of, a recess was taken until evening, when an informal dinner was served at Delmonico's. Covers were laid for 35 persons, all but one of whom were members of the association. The exception was the Hon. L. D. Apsley, of the Apsley Rubber Co. At variance with the usual program at such affairs there were no toasts and no set addresses. President Hodgman made a few remarks, as did also the guest of honor, Mr. Apsley, but that was the extent of the speech making. As a surprise to the diners the committee in charge, Messrs. Hodgman and Huber, had arranged for a vaudeville entertainment by artists of exceptional ability. Each guest was given a souvenir of the occasion in the shape of a handsome silver match box. The dinner was declared to be the most enjoyable ever given by the association.

FACTORY ENLARGEMENT AT COLLEGE POINT.

THE American Hard Rubber Co. are making extensive alterations in their factory at College Point, New York, which when completed will amount practically to a reconstruction of the plant. The oldest hard rubber factory in existence will thus become the most modern. The establishment is also being increased in size, to provide for the increased business incidental to the growth of the country at large. Plans have been adopted for an additional building to be erected this summer, in extension of the east wing, to be four stories high and about 170 feet in length.

UNITED STATES RUBBER CO.—DIVIDENDS.

THE board of directors of the United States Rubber Co. on April 8 declared a dividend of 2 per cent. upon the First preferred stock (including all the shares of that issue now outstanding) for the quarter beginning January 1, 1906, and a dividend of 1½ per cent. upon the Second preferred stock for the quarter beginning January 1, from the net earnings of the company, such dividends being payable, without closing of transfer books, to stockholders of record on April 14. The net earnings for the year (March partially estimated) are stated at approximately \$3,851,000, not including earnings of the Rubber Goods Manufacturing Co., excepting dividends amounting to \$276,859.47 received upon Preferred stock of

said company in the United States company's treasury. The net earnings for the corresponding period last year were \$3,761,922.63. While the earnings of the year are stated to have been sufficient for a dividend upon the common stock, the directors felt it more conservative to defer the same until the company shall receive the actual benefit of the Rubber Goods Manufacturing Co. and other recently acquired properties.

UNITED STATES RUBBER CO.—ANNUAL.

THE fourteenth annual meeting of the shareholders of the United States Rubber Co. for the election of directors, consideration of a proposed amendment to the by laws, and for the transaction of any other business which may properly be brought before the meeting, will be held at the registered office of the company in New Jersey at New Brunswick on Tuesday, May 15, at 12 o'clock noon. The transfer books closed on April 24, and will reopen on May 16 at 10 A. M. ==The proposed amendment to the by laws relates to the addition to Article VIII, entitled "Sales, mortgages, and conveyances," of the following:

SECTION 4. Neither the United States Rubber Co. nor any subsidiary company by it controlled, shall speculate in the stock either of the United States Rubber Co. or of any subsidiary company, or shall buy or sell the same, except in the regular course of the legitimate business of such company, or for the purpose of retirement; and this provision shall be unalterable save by the vote of the holders of three-fourths of each and every class of stock of the company, voting thereon, at a meeting called as provided in the preceding sections of this article.

THE CANFIELD RUBBER CO.—CHANGE.

A CHANGE has occurred in the control of The Canfield Rubber Co. (Bridgeport, Connecticut), through the sale of the stock interest of Mr. Ratcliffe Hicks, long president of the company, to several gentlemen who have been closely identified with its business for a number of years. Mr. Cyrus Morfey, of London, who has handled the European business of the company, has taken a strong interest, the balance being taken by Mr. Theron Davis of New York and Mr. F. N. Benham and Mr. C. F. Holcomb of Bridgeport. The new officers of the company are: F. N. Benham, president; Cyrus Morfey, vice president; C. F. Holcomb, treasurer; Theron Davis, secretary. The business, which is the manufacture of dress shields, will be continued as in the past with The Stewart, Howe & May Co. (New York) acting as selling agents in United States.

MILFORD RUBBER WORKS

THE Milford Rubber Works, incorporated under the laws of Illinois, have been in operation at Milford (about 80 miles south of Chicago) in that state, since the beginning of the year. The officers are John L. G. Dykes, president; E. S. Jones, treasurer; and J. F. Rau, superintendent. The paid in capital is stated to be \$50,000. Milford furnished the building and land on bonus contract. The plant comprises a two story brick building with a total of 21,000 square feet of space, a 350 H.P. Corliss engine, and machinery equipment for mechanical goods and mold work. The factory has a railroad switch and every facility for quick handling of freight. The company are manufacturing the well known

Dykes rubber heel—one of the oldest lines in the market—force cups, and various molded specialties, and are developing the Dykes patent process in the manufacture of motor and vehicle tires.

COMMONWEALTH RUBBER CO. TO MAKE TIRES.

THE Commonwealth Rubber Co. (Reading, Massachusetts) have entered into a contract for the manufacture, on royalty, of the Mitchell punctureless pneumatic tire, which was exhibited for the first time in public at the New York automobile show, in January, where it made a favorable impression, as it did also at the Boston show in March. The Commonwealth company is a Maine corporation and operates the plant at Reading formerly used by the Chauncy Rubber Co. and later operated under several different names. The officers of the Commonwealth company are Edwin D. Marsh, president; Duane H. Nash, vice president; Robert P. Esty, treasurer; Charles E. Todd, secretary. The general manager is Luke S. Stowe, the assistant manager Edward O. Kenny, and the superintendent James Hamilton. Mr. Stowe is an experienced rubber man and will have the buying of crude rubber. Mr. Hamilton has been in the trade for more than 30 years.

MILWAUKEE RUBBER WORKS CO.'S AFFAIRS.

FOLLOWING the petition in bankruptcy filed against the Milwaukee Rubber Works Co. (Cudahy, Wisconsin), reported in the last INDIA RUBBER WORLD, The Milwaukee Trust Co. was appointed receiver in bankruptcy. On the same date a circular was issued over the names of the officers of the rubber company, stating:

The business will be continued without the slightest interruption. These proceedings were precipitated by the action of certain disgruntled stockholders, and will result in a complete reorganization. The indebtedness of the corporation is trifling—some \$20,000—outside of the claims of its president, William Becker, and its vice president, George P. Mayer.

General Manager John Mac Millan, in answer to a recent inquiry, reported: "We cannot as yet outline in detail our reorganization plans, but I shall at the proper time give you all the facts."

A SUIT SATISFACTORILY SETTLED.

TO THE EDITOR OF THE INDIA RUBBER WORLD: In looking over your issue of April 1 we notice on page 237 an item pertaining to a suit the Banner Rubber Co. filed against the Friedman Bros. Shoe Co. We are pleased to state that this account has been settled in full by the Friedman Bros. Shoe Co. without going to court, entirely satisfactory to all parties, and we will thank you very much for making this statement in your next issue. Yours truly,

BANNER RUBBER CO.

St. Louis, April 6, 1906

FOOTWEAR SOUVENIR POST CARDS.

AMONG the most interesting series of souvenir postal cards yet published are those entitled "The Footwear of Nations," and now being distributed by the Woonsocket Rubber Co., (Woonsocket, R. I.). This set of souvenir cards consists of ten designs, beautifully lithographed in rich water color effects, and illustrating in a unique manner the types of natives, with characteristic footwear and dress of Russia, Japan, Germany, India, South Africa, Turkey, Spain, Brazil, Lapland, and Canada. They are educational and instructive, and being practically without advertising will be eagerly sought after by collectors of souvenir cards.

Each set is enclosed in a special envelope of artistic design, and the entire scheme is well planned and carefully carried out. Every jobber of Woonsocket rubbers will receive a liberal supply to send to his customers.

NEW YORK STOCK EXCHANGE TRANSACTIONS.

UNITED STATES RUBBER CO.:

DATES	Common			Preferred.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Mar. 24	6,550	53 $\frac{3}{8}$	52 $\frac{1}{4}$	1,650	113 $\frac{1}{2}$	112
Week ending Mar. 31	39,020	57	53 $\frac{1}{2}$	4,270	114 $\frac{3}{8}$	113 $\frac{1}{4}$
Week ending Apr. 7	12,000	55 $\frac{3}{8}$	52	3,260	115	113 $\frac{3}{4}$
Week ending Apr. 14	6,675	53	51 $\frac{1}{2}$	3,235	114 $\frac{1}{4}$	112 $\frac{1}{2}$
Week ending Apr. 21	9,960	54 $\frac{7}{8}$	51 $\frac{3}{4}$	2,400	112 $\frac{1}{8}$	108 $\frac{1}{2}$

SECOND PREFERRED.

Week ending—Mar. 24.	Mar. 31.	Apr. 7.	Apr. 14.	Apr. 21.
Sales..... 450	2,400	1,000	600	1,500
High..... 83	84 $\frac{3}{4}$	84 $\frac{1}{2}$	84	80 $\frac{1}{2}$
Low..... 82 $\frac{1}{4}$	83 $\frac{3}{8}$	83 $\frac{1}{2}$	81	79 $\frac{1}{2}$

RUBBER GOODS Manufacturing Co.: Sales during week ending April 7—200 shares at 106 $\frac{1}{2}$; week ending April 14—100 shares at 108 $\frac{1}{2}$.

NEPONSET RUBBER WORKS SOLD.

THE plant occupied by the Neponset Rubber Co. (Hyde Park, Massachusetts), after having been idle for some months, was sold on April 4 to M. Norton & Co. (Charles-town, Mass.) and Philip McGrory (Trenton, New Jersey), wholesale dealers in scrap rubber and rubber mill machinery. This factory was built for the manufacture of rubber clothing and formed part of the plant so long operated by the Boston Gossamer Rubber Co. The property embraces over three acres of land, and three buildings with a combined floor space of 60,000 square feet. It embraces up-to-date machinery added by the recent owners for the manufacture of mechanical rubber goods. It is also adapted for the manufacture of footwear, as well as clothing, and embraces appliances suitable for any of these branches of the industry. Neponset station is about 20 minutes from South station, Boston, and is immediately in front of the office of the factory. There is a large reservoir near the building, and a perpetual water right from the river in the rear of the plant. This property if not sold in a short time is to be worked by Messrs. Norton and McGrory, who for some time past have been contemplating entering the rubber reclaiming business.

NEW INCORPORATIONS.

TODD Rubber Co., New Haven, March 23, 1906, under Connecticut laws; capital, \$2500. Incorporators: Eyler J. Todd, George E. Hall, and Meyer Lambert, all of New Haven. The organization of this company, to deal in rubber goods and tires especially, was reported in THE INDIA RUBBER WORLD March 1 (page 204).

=Pneumatic Tire Shield Co., February 27, 1906, under New Jersey laws; capital authorized, \$200,000. Incorporators: Stacey Wilson, No. 253 Broadway, New York; Albert G. Mabee and James Brunton, Newark, N. J. Object, to exploit a protective shield of steel, incased in rubber, to be inserted between the tire tread and inner tube.

=Art Brass Co., February 2, 1906, under the laws of New York; capital \$3000. Object: To deal in metal and rubber goods, and especially to make fine bath room trimmings. Incorporators: Arnold F. Riegger, Frank H. Samuels, and

William M. Cronyn, all of New York. Office: Nos. 535-537 East One Hundred and Thirty-fourth street, New York.

=Inambari Rubber Co. was incorporated under the laws of Maine during the last days of March, with \$1,000,000 capital, by William M. Payson, No. 150 Devonshire street, Boston, who is named as president; and W. E. Dunham and C. O. Barrows, of Portland, Maine. THE INDIA RUBBER WORLD learns that the company are not ready yet for any publication of their plans, but that their interests lie in South America; the name of the company appears to be derived from the Inambari river, in the rubber regions of Peru.

=Royal Rubber Co., for which a charter was issued on April 10 by the territorial secretary at Guthrie, Oklahoma, has for its declared objects the exploitation of the Guayule plant and the manufacture of rubber goods. The authorized capital is \$300,000; the principal place of business is Guthrie, with a branch office at El Paso, Texas; the directors are A. H. Manning and A. J. Bramall of San Francisco, and Major H. W. Pentecost of Guthrie.

KLOCK, OF TROY, MAKES A CHANGE.

DANIEL KLOCK, JR. & Co., of Troy, New York, have sold their wholesale business in boots and shoes and rubber goods, at No. 227 Main street, and the partnership between Mr. Klock and William H. Mann has been closed. The retail business of the firm, at No. 10 Broadway, will be continued by Mr. Klock under his own name—covering such lines as are carried usually in a retail rubber store, with perhaps some jobbing of rubber footwear and other rubber goods. Mr. Klock has been engaged in the rubber goods trade in Troy since December 1, 1865. The store at No. 227 Main street will be continued by F. Converse & Son, an important wholesale firm of Albany.

CANADIAN RUBBER CO. ITEMS.

THE already handsome executive offices of The Canadian Rubber Co. of Montreal, Limited, at Papineau avenue and Notre Dame streets, are being considerably added to, and when completed will be perhaps the handsomest suite of business offices in Montreal.==Mr. Harrison C. Frost, well known in the rubber trade in the United States, has been appointed second vice president of the Canadian company.==Mr. H. H. Repogle, recently with The Diamond Rubber Co. (Akron, Ohio), is now manager of the belting department of the Canadian company.

NOTES FROM AKRON, OHIO.

THE Swinehart Clincher Tire and Rubber Co., having more than doubled their business within the two years since their organization, have increased their capitalization from \$100,000 to \$200,000. This action was taken for the purpose of enlarging their plant to meet the growing demand for their tires. A new factory, which will make the company's capacity more than twice as large, has been nearly completed. It is for this building, and for its equipment with machinery that the increased capitalization will be necessary.

The Goodyear Tire and Rubber Co. have been adding to their force of machinists and motor tire makers. The orders received lately have caused the plant to work to the extent of their capacity.

The Aladdin Rubber Co., located at West Barberton, Ohio, opened their factory on April 18. The company will reclaim rubber and has an extensive plant. For several months the

work of installing machinery and getting the plant into shape for operation has been in progress. The company employs 25 men. This force, however, will be greatly enhanced during the summer season.

A LARGE RUBBER BELT.

THE illustration herewith is based upon a photograph of a rubber belt, ten ply, 72 inches wide, and 140 feet long, manufactured by the Manhattan Rubber Manufacturing Co. (Passaic, New Jersey). It is known as their "Condor" belt, weighs 3000 pounds, and is to be used as a main drive



in the mill of the Bryant Paper Co. (Kalamazoo, Michigan). The belt was sold for the manufacturers by Mr. E. P. Thomas, special paper mill salesman of their Chicago store, and the photograph shows Mr. Thomas standing by the roll of belt, which, by the way, the manufacturers believe to be the longest 6 foot belt in existence.

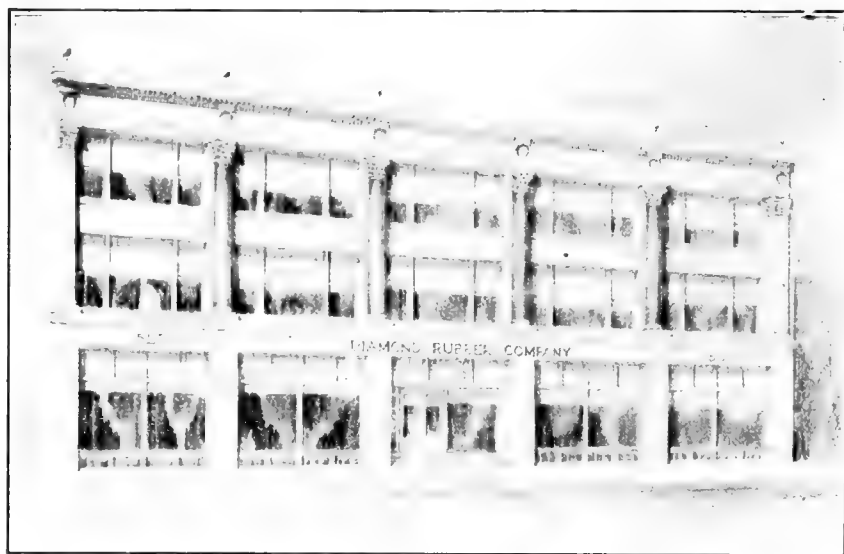
DIXON'S SILICA-GRAPHITE PAINT

WITH the advent of spring nature throws off the dead grays and dull browns of the winter season and gives to all verdure and vegetation the bright and beautiful green that harmonizes so well with warm sunshine and bright skies. And the man who is thrifty and enterprising, if he owns buildings, looks them over, and follows nature's example of rejuvenation. Wood and iron and even brick and stone must of necessity deteriorate, but their usefulness and strength may be much prolonged by a judicious application

of the right sort of preservative. Such a preservative is Dixon's Silica-Graphite Paint, which is especially intended for mills, factories, bridges and all kinds of structural iron work. It is made in four colors and is economical to apply and lasting in quality. [Joseph Dixon Crucible Co., Jersey City, New Jersey.]

DIAMOND RUBBER CO. IN CHICAGO.

On this date The Diamond Rubber Co. (Akron, Ohio), are consolidating their tire and mechanical goods branches at Chicago, and moving into the fine new three story block just completed at Nos. 1523-1531 Michigan avenue. The new block will have a stone front, three floors and basement, and will provide 32,000 square feet of floor surface. The frontage on Michigan avenue is 100 feet. The consoli-



DIAMOND RUBBER CO.'S NEW CHICAGO PREMISES.

dation of the tire and mechanical departments has been made imperative by the rapid growth of The Diamond Rubber Co. in Chicago, necessitating more room. The new establishment will be in charge of Mr. O. S. Tweedy, already well known as the head of The Diamond Rubber Co.'s Chicago Branch.

TRADE NEWS NOTES.

A RECENT fire in Chicago seriously damaged the building, Nos. 80-82 Michigan avenue, which was being remodeled for occupancy by The Goodyear Tire and Rubber Co. on April 1. Inasmuch as they had not moved their stock, the company suffered no loss of property. They at once made arrangements with the owners of the building and the architects, whereby they contemplated getting it ready for the Goodyear company by May 1. They will thus be in an improved modern building, 25 x 120 feet.

=Rubber Goods Manufacturing Co. have removed their general offices from No. 253 Broadway to No. 42 Broadway, in the same building with the United States Rubber Co.

=The L. C. Chase Co., selling agents for the Reading Rubber Mills (Reading, Massachusetts) will be located after May 1 on Winthrop square, Boston, where new and elegant quarters have been secured.

=The board of trade of Brockton, Massachusetts, have received a proposition looking to the establishment of a rubber factory there, by a company offering to invest \$400,000 if \$200,000 additional is subscribed locally.

=Each employé of the Woonsocket Rubber Co., on being paid for the last week before the annual shutdown, beginning April 9, received a notice that, in case he was a tenant of the company's tenements, no rent would be charged while the mills were closed.

=Auto Tire Repair Co. has been established at Columbia City, Indiana, by A. T. Mosher and C. G. Doriot, for the recovering and repairing of automobile tires by a new process developed by Mr. Mosher. He advises THE INDIA RUBBER WORLD: "We put on a perfect wrapped tread without the use of air bags or molds, and can take most any old casing and practically make a new tire out of it."

=The Manufacturers' Advertising Bureau, which, under the direction of Mr. Benjamin R. Western, has so long made a specialty of the advertising of machinery and engineers' supplies, with headquarters in Liberty street, has removed to more extensive quarters at No. 237 Broadway, New York.

=The postal authorities have issued an order denying the use of the United States mails to the Help-to-Hear Co., No. 129 Broadway, New York, advertisers of a small device made of rubber, which the postoffice authorities report to be absolutely useless as a remedy for deafness.

=Major P. L. Rider of the Worcester Rubber Co. (Worcester, Massachusetts), lately moved into new quarters and was surprised and pleased to find that some of his friends in Boston had presented him with a beautiful office desk, chair and mat. The rubber companies that participated in the presentation were the American Rubber Co., Beacon Falls Rubber Shoe Co., Hodgman Rubber Co., Empire Rubber Co., Boston Belting Co., Tyer

Rubber Co., and W. M. Farwell.

=Mr. E. H. Openshaw, for many years connected with the rubber trade in New Jersey, is superintendent of The Combination Rubber Manufacturing Co., at Bloomfield, and not Mr. Fred L. Conover, as stated in a recent issue of this paper.

=Mr. D. Lorne McGibbon, vice president and managing director of The Canadian Rubber Co. of Montreal, Limited, passed through New York a few days ago on his way home, after a well earned vacation spent in Bermuda. His return was somewhat hastened by the sudden death of his brother, Mr. R. D. McGibbon, K. C., one of the most prominent lawyers of the Dominion.

=Throughout the whole of Canada, the winter just closed has been an extremely mild one, and reports from all sources indicate that a big shrinkage in the sales of regular rubber footwear has resulted from this unusual condition. The mild winter has also largely interfered with lumbering operations, and a big reduction in the sale of lumbermen's footwear is reported by all companies doing business in Canada.

=A despatch from Springfield, Ohio, says: "A final dividend of 5¼ per cent. will be declared by Frank M. Krapp, referee in bankruptcy, in the case of the Victor Rubber Co. This will make a dividend of 13¼ per cent. which the creditors will receive." The company referred to was the predecessor of the present Victor Rubber Co. incorporated in July, 1904.

=The offices of the Single Tube Automobile and Bicycle Tire Co. have been removed from No. 253 Broadway to No. 42 Broadway, New York.

=Mr. George N. LeRoux, for seven years connected with the rubber business in Chicago as a salesman, has been appointed assistant manager of The B. F. Goodrich Co.'s Chicago branch, with which concern he has been connected for some time past.

=Rubber Manufacturing and Distributing Co., of Seattle, Washington, are now in their new store and warehouse, Nos. 548-554 First avenue, and the men on the road are having splendid success with the Apsley Rubber Co.'s line of boots and shoes and the Hodgman Rubber Co.'s line of rubber clothing and sundries, whose agencies they have secured. In a short time they will determine upon the line of mechanical goods which they will handle. Mr. L. B. Hitchings, treasurer of the company, who has been East, has returned to Seattle.

=The "Alice" mill of the Woonsocket Rubber Co. resumed work on April 23, after a four weeks' shutdown. The two factories of the Boston Rubber Shoe Co. resumed work on April 24. The factory of the Goodyear's Metallic Rubber Shoe Co., at Naugatuck, after having been closed for two months, started on April 16 on full time, as did the boot and shoe department of the Goodyear's India Rubber Glove Manufacturing Co., which had been running only four days in the week.

=The Republic Rubber Co. (Youngstown, Ohio) will be represented this season by a fast amateur ball team. Almost all of last year's men will be in the game. W. G. Thomas is manager of the team. They are in favor of a manufacturers' league and will give their aid toward forming one. About a half dozen other clubs have signified their intention of joining.

=At the annual meeting of the Inca Mining Co. and the Inca Rubber Co., at Bradford, Pennsylvania, on April 5, the following officers were elected for both companies: C. P. Collins, president; L. E. Hamsher, vice president; W. W. Bell, treasurer; Delevan Emery. The two companies named have been operating for some years in Peru.

=Humphrey O'Sullivan, treasurer of the O'Sullivan Rubber Co. (Lowell, Massachusetts), on the day after the San Francisco disaster, wired \$500 to the mayor of that city for the relief fund.

=The death is reported, on April 20, of William Becker, of Milwaukee, Wisconsin, at Mobile, Alabama, whither he had gone on account of ill health. Mr. Becker was president of the Milwaukee Rubber Works Co.

=The Michelin Products Selling Co., Inc., exclusive importers of Michelin tires in America, Nos. 31-33 West Thirty-first street, New York, have established a subsidiary company to repair all makes of tires under Michelin methods, under the name of the Michelin Tire Repair Works, J. A. Straus, manager, Nos. 242-244 West Forty-first street, New York.

=Pittsburgh Rubber Supply Co., organized at the beginning of the current year by William P. Cowell, report a successful development of trade. They now employ a traveling force of four, covering western Pennsylvania and western Ohio.

=Osgood Sayen, mechanical rubber goods (Philadelphia), has removed to large offices, 421 Arcade building. He is

giving special attention now to the introduction of the R. C. Blow-off Valve, for use on vulcanizers in rubber factories.

=The Goodyear Tire and Rubber Co. have been incorporated under the laws of Massachusetts, to cover the business in that state of the manufacturing company of the same name at Akron, Ohio. On April 26 the new corporation was organized by the election of F. A. Seiberling, president; William T. Teagan, vice president; and C. W. Seiberling, treasurer. Mr. Teagan has been for a number of years manager of the Goodyear company's Boston branch. The Boston address has been changed to No. 261 Dartmouth street, where a large line is carried of automobile tires, and also shoe findings, pads, and the like.

=It is understood that Mr. S. H. C. Miner, of the Granby Rubber Co. (Montreal, Canada), has become interested in an important way in the Foster Rubber Co. of Boston.

=William H. Scheel, No. 159 Maiden lane, New York, who makes a specialty of supplying chemicals to rubber manufacturers, is in a position to make quick delivery of chloride of sulphur in quantities to suit purchasers. Mr. Scheel offers to match samples in any of lines of goods which he carries.

=Kempshall Tire Co., April 19, 1906, under Maine laws; capital, \$200,000. Incorporators: H. J. Dewyea (president), H. P. Sweetser (treasurer), and M. G. Connellan, Portland, Maine; J. D. Upton, North Reading, Mass; E. C. Ramsdell, Boston.

=The rubber footwear branch is well represented in the Shoe and Leather Board of Trade of Baltimore, which has been in active existence since 1870. Charles W. Linthicum, of the Linthicum Rubber Co., is vice president of the Board, and George P. Thomas, Jr., a jobber of rubber boots and shoes, one of the directors.

NEW ENGLAND TO AID SAN FRANCISCO.

THE following request for funds for the San Francisco sufferers has been issued in behalf of the New England Rubber Club:

TO THE MEMBERS OF THE NEW ENGLAND RUBBER CLUB: In view of the appalling disaster which has befallen the city of San Francisco, and in response to the urgent appeal made by the governor of our state and by the mayor of this city for subscriptions from all trade associations, the Executive Committee held a meeting this day at which it was decided to issue an appeal to members and to request them to forward their subscriptions through the Treasurer, Mr. Frederick H. Jones, No. 50 Bromfield street, Boston. All subscriptions sent to the Treasurer will be acknowledged by him and will also be publicly announced through the press in Boston.

The Executive Committee request that all members be as generous and as prompt as possible in forwarding their subscriptions, so that immediate action can be taken to relieve the suffering and necessities of this stricken community. Respectfully yours,

ARTHUR W. STEDMAN, Vice President.

ROBERT L. RICE, Assistant Secretary.

Boston, Massachusetts, April 23, 1906.

CHEMICALS FOR THE RUBBER INDUSTRY.

GEORGE W. SPEAIGHT, a manufacturing chemist who has bestowed many years of attention to the preparation of chemicals for use in the rubber industry, has been obliged, owing to the increasing demand for his products, and especially for chloride of sulphur, to add to his factory capacity to an important extent. The office address of the business has been removed from Fulton street, New York, to the factory, Nos. 248-256 North Tenth street, Brooklyn. Mr.

Speaight began manufacturing on his own account 24 years ago, and his business has shown a steady increase during this time. He is prepared now to make prompt deliveries in any quantity, of guaranteed products.

ADDITIONAL TRENTON NEWS.

THE Grieb Rubber Co., which for some time past has been forced to overcrowd its steam capacity, is installing a new 250 HP. boiler. The Inter State Rubber Shoe Co., which lately has been operating the plant of the Reliance Rubber Co., at Brookville, a suburb of Trenton, has discontinued its business and the plant is now idle.

Two new Trenton rubber companies were incorporated at the State house on April 25. The first was the Double-Service Packing Co., with \$5000 capital. The incorporators are Francis C. Lowthorp, Edward W. Lee, and Elwood W. Moore, Jr., all of Trenton. The charter states that the concern is to manufacture mechanical rubber goods and conduct a general rubber business. It is understood that no goods will be manufactured at present, but that the company will conduct a selling agency. The office will be in the Broad Street National Bank building, with Francis C. Lowthorp as the agent in charge. The other company chartered was the Nassau Rubber Co. The authorized capital is \$2000. The incorporators are Joseph O. Stokes, of The Joseph Stokes Rubber Co.; William J. B. Stokes, of the Trenton Rubber Manufacturing Co.; Frederick N. Hamerstrom, of the Trenton company; and Francis C. Lowthorp. According to its charter the company is to manufacture all kinds of rubber goods. It was learned that this concern was chartered at this time to protect and retain the name "Nassau." The office and agent of this company are the same as those of the Double-Service.

GORHAM RUBBER CO. BURNED OUT.

THE Oakland (California) *Tribune* of April 19 reported: "William J. Gorham, mayor of Alameda and president of the Gorham Rubber Co., suffered the loss of his entire plant and stock. The former was valued at \$200,000, and the latter at half as much more. The company was housed in a substantial and handsome building on Mission street, near Fremont, [San Francisco], which was completely destroyed.

There was practically no insurance on the stock, though the machinery and apparatus were protected to a reasonable extent. The destruction of the establishment throws 52 men out of employment, but Mr. Gorham announced yesterday that he would resume business somewhere 'as soon as the ashes got cold.'"

PERSONAL MENTION

MR. GEORGE P. Whitmore, secretary of the Boston Belting Co. (Boston), has been appointed Deputy Grand Master, a Masonic position of much importance, and will have in his jurisdiction eight lodges, containing some 2000 members.

—Mr. N. Lincoln Greene, for a number of years a traveling representative of the United States Rubber Co., and Miss Grace Palmiter Bell, daughter of Mrs. Martha E. Bell, of Columbus, Ohio, were married in the latter city on March 31.

—A recent visitor to New York was Mr. Low Gek Sing, of Singapore, a partner in the important mercantile house of Kiam Hoa Heng & Co., of Bangkok, Siam, and manager of their foreign department, at Singapore. Mr. Low is a friend of Tan Chay Yan, lately mentioned in this Journal in connection with rubber planting in the Far East, and was one of the vendors of The Malacca Rubber Plantations, Limited, floated a few months ago in London. It was his interest in this connection that brought Mr. Low westward as far as London and New York, where, by the way, an important interest in the Malacca plantation is held.

—Mr. H. H. Holland, in charge of the London depot of the United States Rubber Co., has been a recent visitor to the United States.

—Mr. Lester Leland, vice president of the United States Rubber Co., accompanied by Mrs. Leland, sailed from New York on April 24 for Europe.

—The presidency of the General Rubber Co. (New York) has been resigned by Mr. William M. Ivins.

—Mr. James C. Harvey, manager of "La Junta" rubber plantation of the Mexican Mutual Planters' Co. (Chicago), is visiting his home at Los Angeles, and expects to be in Mexico again by the middle of this month. He spent a few days each in New York and Chicago.

REVIEW OF THE CRUDE RUBBER MARKET.

THE condition of the market during April was one of comparative inactivity, and a decline in prices which set in early in the month had not been recovered from at the end. Quotations on nearly every item reported on in these pages are lower than one month ago, as will be seen from the tables below, but this condition has not encouraged free buying. There have been numerous transactions, but for most part purchases have been on a small scale. The closing of the rubber shoe factories for a longer period than usual doubtless contributed somewhat to the decreased demand for consumption, but as this branch of the industry is again active rubber for footwear will again be in active demand. At any rate buyers were showing more interest in the market at the close of the month.

An unusually small amount of rubber was offered at Antwerp during the month, the only sale being that of somewhat damaged stock, details of which appear in another

column. The next important inscription will occur on May 4, when 510 tons will be offered. The result is being looked forward to with much interest.

ANTWERP RUBBER STATISTICS FOR MARCH.

DETAILS.	1906.	1905.	1904.	1903.	1902.
Stocks, Feb. 28, <i>kilos</i>	614,688	557,400	335,090	475,538	984,820
Arrivals, March	650,502	334,000	751,077	428,455	258,131
Congo sorts	521,264	266,097	646,124	398,743	235,518
Other sorts	138,298	67,903	104,953	29,712	22,613
Aggregating	1,274,250	891,400	1,086,167	903,993	1,242,951
Sales, March	632,600	567,455	385,432	632,109	401,273
Stocks, March 31 . . .	641,650	323,945	700,735	271,884	841,678
Arrivals since Jan. 1 . .	1,679,490	1,281,027	1,637,802	1,146,128	1,501,489
Congo sorts	1,274,782	1,002,124	1,322,806	1,008,997	1,436,687
Other sorts	404,708	278,903	314,996	137,131	64,802
Sales since Jan. 1 . . .	1,773,027	1,498,443	1,547,967	1,532,349	1,074,520

Receipts at Para April 1-27 were 2300 tons (including 615 of Caucho), against 2020 tons for the whole of April last year.

In regard to the financial situation, Albert B. Beers (broker in India-rubber, No. 68 William street, New York), advises us:

During April the money market has not been in condition for free buying of paper, so that very few banks have been in the market, and rates have ruled nominally at 5½ to 6½ per cent.

Following is a statement of prices of Pará grades, one year ago, one month ago, and on April 30—the date:

PARA.	May 1, '05.	April 1, '06	April 30.
Islands, fine, new.....	129@ 130	124@ 125	122@ 123
Islands, fine, old.....	none here	none here	none here
Upriver, fine, new.....	130@ 131	129@ 130	121@ 127
Upriver, fine, old.....	none here	130@ 131	127 @ 128
Islands, coarse, new.....	73@ 74	73@ 74	71@ 71
Islands, coarse, old.....	75@ 76	none here	none here
Upriver, coarse, new.....	95@ 96	91½@ 95	91½@ 92
Upriver, coarse, old.....	none here	none here	none here
Caucho (Peruvian) sheet....	73@ 74	74@ 75	74@ 75
Caucho (Peruvian) ball.....	81@ 82	88@ 89	85@ 86

AFRICAN.	CENTRALS
Sierra Leone 1st qual. 103 @ 104	Esmeralda, sausage. . . 89@ 90
Massai, red.....103 @ 104	Guayaquil, strip.... 74@ 75
Benguella..... 83 @ 84	Nicaragua, scrap..... 86@ 87
Cameroon ball..... 78½@ 76	Panama, slab..... 65@ 60
Accra flake..... 22½@ 23	Mexican, scrap..... 88@ 89
Lopori ball, prime . . 114 @ 115	Mexican, slab..... 63@ 65
Lopori strip, prime . 103 @ 104	Mangabeira, sheet.... 62@ 72
Madagascar, pinky.. 97 @ 98	EAST INDIAN.
Ikelemba.....115 @ 116	Assam.....100@ 101
	Borneo.....44½@ 48

Late Pará cables quote:

	Per Kilo		Per Kilo
Islands, fine.....	5\$750	Upriver, fine.....	7\$050
Islands, coarse.....	2\$950	Upriver, coarse.....	4\$950
Exchange, 15½d.			

Last Manáos advices:

Upriver, fine.....	6\$800	Upriver, coarse.....	4\$500
Exchange, 15½d.			

Statistics of Para Rubber (Excluding Caucho).

NEW YORK.

	Fine and Medium.	Coarse.	Total. 1906.	Total. 1905.	Total. 1904.
Stocks, February 28.....tons	351	7 =	358	136	115
Arrivals, March.....	869	546 =	1415	3148	2416
Aggregating.....	1220	553 =	1773	3284	2531
Deliveries, March.....	839	539 =	1378	2941	2285
Stocks, March 31.....	381	14 =	395	343	246

PARÁ.

	1904.	1905.	1906.
Stocks, February 28.....tons	737	810	435
Arrivals, March.....	2795	3800	3970
Aggregating.....	3532	4710	4405
Deliveries, March.....	3396	3881	3800
Stocks, March 31.....	136	829	605

ENGLAND.

	1904.	1905.	1906.
Stocks, February 28.....tons	875	395	380
Arrivals, March.....	866	770	875
Aggregating.....	1741	1075	1255
Deliveries, March.....	836	800	775
Stocks, March 31.....	905	275	480

	1906.	1905.	1904.
World's visible supply, March 31.....tons	3269	3511	2506
Pará Receipts, July 1 to March 31.....	24,264	23,256	22,345
Pará Receipts of Caucho, same dates.....	3705	3794	3129
Afloat from Pará to United States, March 31	757	829	392
Afloat from Pará to Europe, March 31.....	1076	1210	783

New York.

The United States general appraisers at New York have been hearing testimony in the matter of the protests of a number of importers against the imposition of duty on imports of crude Balata, but a decision has not yet been reached.

Para.

R. O. AHLERS & Co. report March 12, 1906:

With the continuance of good demand supplies have found ready buyers at steady and improving prices. The market remains firm, and as the reports from various districts are such as to imply an earlier falling off in the receipts than was expected, a further advance would not be out of the way, unless consuming markets should take an adverse turn both with reference to demand and values.

R. O. AHLERS & Co. report [March 31].

A steady demand has prevailed, and if occasionally a slight relaxation in the rates occurred, holders have shown no pressure to sell with the result that a spurt in the demand soon sprang up, producing sufficient rallying power to influence prices favorably. The fact that receipts are not so abundant as might be desired, imparts a strengthening tendency to the market, and with forecasts of a strong position and probable improvement in prices in proportion as the crop draws to an end. The aspect is inspiring confidence and causes a cheerful feeling to prevail.

Bordeaux.

SINCE my last report [March 12] the market has remained very quiet, with only slight fluctuations. Small business has been done at about 1d. decline per kilo, owing to the dullness of demand that just supplies immediate needs. The receipts in African and American sorts continue still larger. During March they amounted to 270 tons, bringing the total from last January to 903 tons, against 431 tons last year, and 319 tons in 1904. During last week the market was more active and some business was done at better rates; prices close firmer but with few buyers. Forty-two tons African were offered at last Tuesday's sale and met with rather small competition; 14,630 kilos were bought in. Sale includes: Conakry niggers 11.75; Soudan niggers, 11.08; niggers Beyla 11.42; Manoh twists 11.30; Lahou niggers 10.31; Congo Sangha 11.15 (francs per kilo).

ROBERT LAFON.

Bordeaux, April 14, 1906

At a recent meeting of the Bordeaux chamber of commerce the president told of an interview which he had had in Paris with the French minister for the colonies, relative to the Bordeaux rubber market and the importance of its development. The minister wished it understood that he was keeping in touch with the various French colonial companies, especially those in the French Congo, and he expected these in the future to send all their rubber to the French market instead of to Liverpool and Antwerp. He desired the coöperation of the chamber of commerce in this matter. The president of the chamber added that he had expressed to the minister the thanks of the Bordeaux trade for his interest.

The *Revue Commerciale* (Bordeaux), in connection with the above information, refers to its reception in Belgium, where it elicited the following comments from an Antwerp newspaper: "Here are some facts which Antwerp should know. If we are not careful, Antwerp may some day see the decline of her rubber market, which has already provoked jealousies abroad."

Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers for car-load lots in cents per pound—are unchanged, except for domestic shoes, which show a slight advance:

Old Rubber Boots and Shoes	Domestic.....	7½	@ 8
Do	Foreign.....	7¼	@ 7¾
Pneumatic Bicycle Tires.....		7½	@ 7¼
Solid Rubber Wagon and Carriage Tires.....		8½	@ 8¾
White Trimmed Rubber.....		10½	@ 11
Heavy Black Rubber.....		5¼	@ 5½
Air Brake Hose.....		3¼	@ 3¾
Fire and Large Hose.....		2½	@ 3
Garden Hose.....		2¼	@ 2½
Matting.....		1¼	@ 1½

NEW YORK RUBBER PRICES FOR MARCH (NEW RUBBER).

	1906	1905	1904
Upriver, fine.....	1.25 @ 1.29	1.28 @ 1.34	1.06 @ 1.12
Upriver, coarse.....	.93 @ .96	.94 @ 1.00	.84 @ .87
Islands, fine.....	1.23 @ 1.25	1.25 @ 1.31	1.03 @ 1.08
Islands, coarse.....	.73 @ .75	.75 @ .80	.66 @ .70
Cametá.....	.74 @ .77	.77 @ .82	.66 @ .70

Liverpool.

EDMUND SCHLÜTER & Co. report [March 31]:

The position has gained in strength through the small receipts during March, and there can scarcely be any doubt but that the increase in the actual use of Amazon rubber during the nine months of the season far surpasses the increase in receipts. It is therefore probable that prices will continue to rule high

WORLD'S VISIBLE SUPPLY OF PARA, MARCH 31.

	1906	1905	1904	1903	1902
Tons.....	5014	4385	2980	4995	5958
Prices, hard fine..	5 5	5 6	4/8 1/2	3 9/4	3 1/4

LIVERPOOL STOCKS OF AFRICAN RUBBER, MARCH 31.

1900.....	344	1903.....	387	1900.....	663
1905.....	364	1902.....	513	1899.....	422
1904.....	402	1901.....	862	1898.....	497

London.

EDWARD TILL & Co. report stocks [April 2]:

	1906.	1905.	1904
Pará sorts.....tons	—	—	—
Plantation, Ceylon and Straits....	36	—	—
Borneo.....	42	8	4
Assam and Rangoon.....	9	1	6
Penang.....	230	133	—
Other sorts.....	237	181	206

Total.....554 323 216

LIVERPOOL { Pará sorts.....	913	278	483
{ Caucho.....	181	171	196
{ Other sorts.....	460	460	472

Total, United Kingdom.....2108 1232 1367

Total, March.....1906 1264 1136

Total, February.....1539 1298 1341

Total, January.....

Total, December.....1728 1507 1185

PRICES PAID DURING MARCH.

	1906.	1905.	1904.
Pará, fine, hard.....	5' 4 @ 5' 5	5' 4 1/2 @ 5' 7	4' 6 @ 4' 9
Do soft.....	5' 3 1/2 @ 5' 4	5' 5 @ 5' 7 1/2	4' 5 @ 4' 8
Negroheads, scrappy 3	11 1/4 @ 3 11 1/2	4 0 1/2 @ 4' 3	3' 6 1/2 @ 3' 9
Do Cametá 3	2 1/4 @ 3 3	3' 3 @ 3' 3 1/2	2' 10 1/4 @ 2' 11 1/2
Bolivian.....	5' 4 1/4 @ 5' 5	5' 5 1/2 @ 5' 7	4' 6 1/2 @ 4' 8
Caucho, ball.....	3' 8 1/2 @ 3' 9	3' 4 @ 3' 6	3' 3 @ 3' 4 1/4
Do slab.....	3' 1 1/2 @ 3' 2	3' 1 3/4 @ 3' 3	2' 10 @ 2' 10 1/4
Do tails.....	No sales	3' 2 1/2 @ 3' 2 3/4	No sales

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: At the inscription sale of March 23 the details of offerings and takings were as follows:

	Exposed.	Sold.
Congo sorts.....tons	552	523
Other sorts.....	63	55
Total.....	615	578

Prices were about 20 centimes—or nearly 2 per cent.—above valuations. The buying was general. Among the more important lots were:

	Estimation.	Sold at.
51 tons Upper Congo Uelé.....francs	11.30	11.62 1/2
35 " Aruwimi.....	11.80	12.42 1/2
17 " Congo Djuma II.....	8.25	8.32 1/2
25 " Kasai Loanda.....	10.80	10.85
10 " Yenga.....	13.	13.35

A small sale took place on March 30, when 13 tons were disposed of, at unchanged prices. On April 20 there will be offered at inscription 119 tons of Congo sorts, more or less damaged, saved from the steamer *Leopoldville*. Among the offerings are 40 tons Upper Congo ball, valued at 11.25 francs; 19 tons Uelé, 9.50; 7 tons Katanga, 11.75 francs. These valuations take the damage into account. The regular monthly sale will occur later.

C. SCHMID & CO., SUCCESEURS

Antwerp, April 12, 1906.

RUBBER ARRIVALS AT ANTWERP.

MARCH 27.—By the *Philippeville*, from the Congo:

Bunge & Co. Société General Africaine	kilos	199,000
Do (Comite Spécial Katanga)		10,000
Do		23,000
Do (Societe A B I R)		23,000
Comptoir Commercial Congolais		5,000
M. S. Cols (Société Baniembe)		500
Do (C. D'Heygere)		500
Do (Société l'Ikelemba)		500
Cie. Commerciale des Colonies (La Haut Sangha)		10,500
Do		4,000
Société General de Commerce (Société "La Lobay")		10,000
L. & W. Van de Velde (Cie. du Kasai)		16,000
Do		5,000
Do		500
Société Coloniale Anversoise (Cie de Lomami)		9,000
Do (Lulonga)		1,000
Do Sud Kamerun		5,000
Do		2,000
Do		2,500
Do (Cie. Francaise du Haut Congo)		1,000
Société Equatoriale Congolaise		8,000
		1,500 337,500

Ceylon (Plantation) Rubber Exports, 1906.

DETAILS—BY WEEKS.

	POUNDS.	POUNDS.
January 1 to Feb. 19....	38,521	Total, 1906..... 63,244
Week ending Feb. 26....	3,095	Same dates, 1905..... 23,676
Week ending Mar. 5....	6,442	Same dates, 1904..... 14,262
Week ending Mar. 12....	7,354	Same dates, 1903..... 10,497
Week ending Mar. 19....	7,832	

DESTINATION.

Great Britain.....	47,722	United States..... 8,230
Germany.....	7,072	Belgium..... 220

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

April 7.—By the steamer *Dunslan*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
Poel & Arnold.....	10,800	44,800	80,700	53,700 =	190,000
N. Y. Commercial Co..	51,900	12,700	64,900	14,800 =	144,300
A. T. Morse & Co.....	13,700	3,800	94,100	21,600 =	133,200
General Rubber Co....	58,100	11,800	9,900	30,200 =	110,000
C. P. dos Santos.....	27,800	10,500	37,300	7,000 =	82,600
Neale & Co.....	1,100	300	64,400	.... =	65,800
Hagemeyer & Brunn..	21,800	....	18,700	.... =	40,500
Edmund Reeks & Co..	7,800	600	21,800	.... =	30,200
G. Amsinck & Co.....	3,100	500	800	9,500 =	13,900
Total.....	196,100	85,000	392,600	136,800 =	810,500

April 13.—By the steamer *Maranhense*, from Manáos and Pará:

Poel & Arnold.....	98,100	41,900	105,600	31,800 =	277,400
A. T. Morse & Co.....	79,000	10,200	63,500	87,500 =	246,200
N. Y. Commercial Co..	93,900	20,600	33,500	18,300 =	166,300
General Rubber Co....	3,100	1,600	3,200	82,300 =	90,200
Neale & Co.....	7,800	2,800	68,300	.... =	78,900
Hagemeyer & Brunn..	25,100	4,300	37,900	1,100 =	68,400
C. P. dos Santos.....	26,900	10,300	18,200	6,000 =	61,400
Edmund Reeks & Co..	12,500	2,400	42,000	.... =	56,900
Czarnikow, McDougal Co.	8,200	3,000	1,800	.... =	13,000
Total.....	354,600	103,100	374,000	227,000 =	1,058,700

[NOTE.—The steamer *Gregory* from Para, is due at New York, April 28, with 670 tons Rubber. The steamer *Dominic* from Para, is due at New York, May 4, with 225 tons Rubber.]

PARA RUBBER VIA EUROPE.

	POUNDS.
APR. 2.—By the <i>Cuba</i> =Liverpool:	
Poel & Arnold (Coarse).....	12,500
APR. 3.—By the <i>Cevic</i> =Liverpool:	
New York Commercial Co. (Fine)...	18,000
A. T. Morse & Co (Coarse).....	9,000
APR. 4.—By the <i>Carmania</i> =Liverpool:	
A. T. Morse & Co. (Coarse).....	9,000
APR. 6.—By the <i>Baltic</i> =Liverpool:	
New York Commercial Co. (Fine)...	23,000
APR. 18.—By the <i>Armenian</i> =Liverpool:	
A. T. Morse & Co (Coarse).....	11,000
APR. 18.—By the <i>Caronia</i> =Liverpool:	
New York Commercial Co. (Fine)...	65,000
A. T. Morse & Co. (Coarse).....	11,000
APR. 19.—By the <i>Oceanic</i> =Liverpool:	
A. T. Morse & Co. (Coarse).....	11,500

OTHER ARRIVALS AT NEW YORK

CENTRALS.

	POUNDS.
MAR. 26.—By the <i>Tennison</i> =Bahia:	
Adolph Hirsch & Co.....	9,000
J. H. Rosback & Bros.....	11,500
American Commercial Co.....	5,500
MAR. 26.—By the <i>El Dia</i> =Galveston:	
Continental & Mexican Co.....	25,000
MAR. 27.—By the <i>El Paso</i> =New Orleans:	
A. T. Morse & Co.....	11,000
Manhattan Rubber Mfg. Co.....	5,000
G. Amsinck & Co.....	1,000
Eggers & Heinlein.....	1,000
MAR. 27.—By the <i>St. Paul</i> =London:	
Poel & Arnold.....	3,500
MAR. 28.—By the <i>El Cid</i> =Galveston:	
New York Commercial Co.....	22,000
MAR. 28.—By the <i>Siberia</i> =Colombia:	
Punderford & Co.....	3,500
A. Held.....	2,000
D. A. DeLima & Co.....	1,000
Roldan Van Sickle.....	1,000
E. B. Strout.....	1,000
Suzarte & Whitney.....	500
Isaac Brandon & Bros.....	500
MAR. 29.—By the <i>Colon</i> =Colon:	
Hirzel, Feltman & Co.....	15,000
Dumarest Bros. & Co.....	2,000
Mann & Emdon.....	1,500
A. M. Capens Sons.....	2,000
A. Santos & Co.....	1,500
W. R. Grace & Co.....	500
Lawrence Johnson & Co.....	500
MAR. 30.—By the <i>Atrato</i> =Caribbean:	
Pedro A. Lopez.....	7,000
G. Amsinck & Co.....	3,500
J. A. Medina & Co.....	3,000
Wessels, Kulemkamp Co.....	3,000
Meyer Hecht.....	2,000
A. M. Capen Sons.....	1,000
Kunhardt & Co.....	1,000
D. A. De Lima & Co.....	1,000
Isaac Brandon & Bros.....	1,000
MAR. 31.—By the <i>Ville Rouen</i> =Havre:	
Adolph Hirsch & Co.....	11,500
MAR. 31.—By the <i>Esperanza</i> =Mexico:	
H. Marquardt & Co.....	11,000
Graham, Hinkley & Co.....	1,000
Isaac Kubie & Co.....	1,000
APR. 2.—By the <i>Graecia</i> =Colombia:	
Kunhardt & Co.....	3,000
Pedro A. Lopez.....	3,000
Cortez Commercial Co.....	2,500
G. Amsinck & Co.....	500
APR. 2.—By the <i>El Siglo</i> =Galveston:	
Continental & Mexican Co.....	30,000
APR. 2.—By the <i>Bayamo</i> =Tampico:	
New York Commercial Co.....	4,000
American Trading Co.....	1,000
APR. 3.—By the <i>Prins Aug. Wm.</i> =Colombia:	
Isaac Brandon & Bros.....	2,500
Cortez Commercial Co.....	2,500
H. S. Henry Sons.....	2,000
Fould & Co.....	1,500
Thebaud Brothers.....	500
APR. 5.—By the <i>Advance</i> =Colon:	
E. B. Strout.....	5,000
Eggers & Heinlein.....	2,000
Manhattan Rubber Mfg Co.....	1,000

CENTRALS—Continued.

APR. 7.—By the <i>Rugia</i> =Hamburg:	
General Rubber Co.....	11,000
APR. 7.—By the <i>El Mar</i> =Galveston:	
Continental & Mexican Co.....	15,000
APR. 9.—By the <i>Panam</i> =Colon:	
G. Amsinck & Co.....	6,500
Dumarest Bros. & Co.....	2,500
Roldan & Van Sickle.....	2,500
American Trading Co.....	2,000
Piza, Nephews & Co.....	2,000
Mann & Emdon.....	1,500
Hirzel, Feltman & Co.....	1,500
A. Santos & Co.....	1,000
Isaac Kubie & Co.....	1,000
Wessels, Kulemkamp Co.....	1,000
Smithers, Nordenholt & Co.....	1,000
Aramburo Co.....	1,000
F. Rosenstein & Co.....	500
APR. 9.—By the <i>England</i> =Mexico:	
E. Steiger & Co.....	4,000
Harburger & Stack.....	3,000
Strube & Ulze.....	1,500
H. Marquardt & Co.....	1,000
Graham, Hinkley & Co.....	1,000
APR. 10.—By the <i>Sabine</i> =Mobile:	
A. T. Morse & Co.....	6,500
APR. 10.—By the <i>Matanzas</i> =Tampico:	
New York Commercial Co.....	7,000
APR. 12.—By the <i>Sarna</i> =Colombia:	
A. Held.....	3,500
Punderford & Co.....	2,500
Thurin & Ladriagan.....	2,000
D. A. De Lima & Co.....	1,000
Isaac Brandon & Bros.....	1,000
Andreas & Co.....	500
APR. 13.—By the <i>Flandria</i> =Honduras:	
A. Rosenthals Sons.....	2,000
European Account.....	3,000
APR. 13.—By the <i>Pennsylvania</i> =Hamburg:	
General Rubber Co.....	13,500
APR. 13.—By the <i>La Plata</i> =Caribbean:	
Mecke & Co.....	5,000
G. Amsinck & Co.....	4,500
E. B. Strout.....	1,000
APR. 13.—By the <i>El Rio</i> =Galveston:	
Continental & Mexican Co.....	45,000
APR. 13.—By the <i>Chalmette</i> =New Orleans:	
A. T. Morse & Co.....	5,500
A. N. Rotholz & Co.....	2,500
APR. 14.—By the <i>Alliance</i> =Colon:	
G. Amsinck & Co.....	4,500
Eggers & Heinlein.....	1,000
APR. 14.—By the <i>Seguana</i> =Mexico:	
Harburger & Stack.....	9,000
H. Marquardt & Co.....	7,000
Fred Probst & Co.....	1,500
Graham, Hinkley & Co.....	1,500
L. N. Chemedlin & Co.....	1,000
E. Steiger & Co.....	500
American Trading Co.....	500
APR. 16.—By the <i>Thespi</i> =Bahia:	
Adolph Hirsch & Co.....	25,000
Hagemeyer & Brunn.....	9,000
J. H. Rosback & Bros.....	4,000
A. D. Hitch & Co.....	4,000
American Commercial Co.....	7,000
APR. 16.—By the <i>Comus</i> =New Orleans:	
G. Amsinck & Co.....	1,500
A. N. Rotholz.....	1,500
Manhattan Rubber Mfg Co.....	1,500
Eggers & Heinlein.....	500
APR. 16.—By the <i>City Washington</i> =Tampico:	
European Account.....	22,000
APR. 17.—By the <i>Alleghany</i> =Colombia:	
Roldan & Van Sickle.....	2,000
Isaac Brandon & Bros.....	1,500
Kunhardt & Co.....	1,500
G. Amsinck & Co.....	500
A. D. Straus & Co.....	500
APR. 18.—By the <i>Virginia</i> =Colon:	
G. Amsinck & Co.....	9,000
E. B. Strout.....	4,000
Meyer Hecht.....	2,000
George A. Alden & Co.....	1,000
A. Santos & Co.....	500
H. Marquardt & Co.....	500
APR. 19.—By the <i>El Sud</i> =Galveston:	
Continental & Mexican Co.....	55,000
APR. 21.—By the <i>El Monte</i> =New Orleans:	
A. T. Morse & Co.....	5,000

CENTRALS—Continued

APR. 21.—By the <i>Seneca</i> =Tampico:	
Edward Maurer.....	34,000
New York Commercial Co.....	7,000
AFRICANS.	
MAR. 27.—By the <i>Victoria</i> =Hamburg:	
A. T. Morse & Co.....	23,000
Poel & Arnold.....	5,500
Earle Brothers.....	4,500
George A. Alden & Co.....	6,000
MAR. 28.—By the <i>Victorian</i> =Liverpool:	
Poel & Arnold.....	22,000
A. W. Brunn.....	6,000
F. R. Muller Co.....	5,000
Rubber Trading Co.....	2,500
MAR. 29.—By the <i>Teutonic</i> =Liverpool:	
George A. Alden & Co.....	85,000
A. T. Morse & Co.....	15,000
A. W. Brunn.....	6,000
MAR. 29.—By the <i>Waltersee</i> =Hamburg:	
Poel & Arnold.....	80,000
A. T. Morse & Co.....	40,000
George A. Alden & Co.....	60,000
Rubber Trading Co.....	35,000
APR. 2.—By the <i>St. Louis</i> =London:	
George A. Alden & Co.....	65,000
General Rubber Co.....	35,000
APR. 2.—By the <i>Ebura</i> =Liverpool:	
George A. Alden & Co.....	22,000
APR. 2.—By the <i>Amerika</i> =Hamburg:	
Poel & Arnold.....	11,000
APR. 2.—By the <i>La Touraine</i> =Havre:	
George A. Alden & Co.....	5,000
A. T. Morse & Co.....	3,000
Poel & Arnold.....	3,000
APR. 2.—By the <i>Cuba</i> =Liverpool:	
Poel & Arnold.....	50,000
Rubber Trading Co.....	9,000
APR. 3.—By the <i>Civic</i> =Liverpool:	
George A. Alden & Co.....	20,000
A. T. Morse & Co.....	8,000
Joseph Cantor.....	2,500
APR. 4.—By the <i>Carmania</i> =Liverpool:	
General Rubber Co.....	55,000
A. T. Morse & Co.....	27,000
George A. Alden & Co.....	12,000
Joseph Cantor.....	11,000
A. W. Brunn.....	5,000
APR. 4.—By the <i>Potsdam</i> =Rotterdam:	
Joseph Cantor.....	5,000
APR. 6.—By the <i>Baltic</i> =Liverpool:	
A. T. Morse & Co.....	30,000
George A. Alden & Co.....	20,000
APR. 7.—By the <i>Rugia</i> =Hamburg:	
A. T. Morse & Co.....	37,000
George A. Alden & Co.....	3,500
APR. 9.—By the <i>Gasconne</i> =Havre:	
A. T. Morse & Co.....	6,000
Poel & Arnold.....	2,500
APR. 10.—By the <i>Minnetonka</i> =London:	
General Rubber Co.....	50,000
APR. 10.—By the <i>Noordind</i> =Antwerp:	
George A. Alden & Co.....	40,000
A. T. Morse & Co.....	33,500
Poel & Arnold.....	15,000
APR. 11.—By the <i>Noordam</i> =Rotterdam:	
Rubber Trading Co.....	14,000
APR. 12.—By the <i>Majestic</i> =Liverpool:	
George A. Alden & Co.....	11,500
Henry A. Gould Co.....	11,500
Earle Brothers.....	4,500
APR. 12.—By the <i>Kroonland</i> =Antwerp:	
George A. Alden & Co.....	200,000
Western Electric Co.....	55,000
A. T. Morse & Co.....	50,000
Robinson & Stiles.....	25,000
Joseph Cantor.....	11,500
Rubber Trading Co.....	22,100
APR. 13.—By the <i>Irishman</i> =Liverpool:	
Poel & Arnold.....	15,000
A. T. Morse & Co.....	15,000
George A. Alden & Co.....	35,000
APR. 13.—By the <i>Pennsylvania</i> =Hamburg:	
Poel & Arnold.....	15,000
Rubber Trading Co.....	25,000
A. T. Morse & Co.....	15,000

AFRICANS—Continued.

Earle Brothers.....	10,000	
General Rubber Co.....	7,000	102,000
APR. 16.—By the <i>Celtic</i> —Liverpool:		
A. T. Morse & Co.....	37,000	
APR. 16.—By the <i>Zeeland</i> —Antwerp:		
Western Electric Co.....	15,000	
APR. 18.—By the <i>Armenian</i> —Liverpool:		
Poel & Arnold.....	35,000	
APR. 18.—By the <i>Caronia</i> —Liverpool:		
George A. Alden & Co.....	17,000	
APR. 19.—By the <i>Oceanic</i> —Liverpool:		
General Rubber Co.....	55,000	
Poel & Arnold.....	50,000	
Rubber Trading Co.....	11,000	116,000
APR. 21.—By the <i>Campania</i> —Liverpool:		
George A. Alden & Co.....	56,000	
General Rubber Co.....	11,000	
A. T. Morse & Co.....	2,500	69,500

EAST INDIAN.

APR. 2.—By the <i>St. Louis</i> —London:		
Poel & Arnold.....	11 500	
George A. Alden & Co.....	2,500	
A. T. Morse & Co.....	2 000	16,000
APR. 4.—By the <i>Pathan</i> —Singapore:		
George A. Alden & Co.....	35 000	
Pierre T. Betts.....	30,000	
Heabler & Co.....	22,000	
Poel & Arnold.....	9 000	96,000
APR. 7.—By the <i>Philadelphia</i> —London:		
Poel & Arnold.....	3,500	
C. Von Postau Co.....	3,500	7,000
APR. 7.—By the <i>Coulsdon</i> —Singapore:		
Poel & Arnold.....	55,000	
George A. Alden & Co.....	22,000	
Pierre T. Betts.....	10,000	
F. R. Muller & Co.....	6,000	93,000
APR. 10.—By the <i>Minnetonka</i> —London:		
Robinson & Stiles.....	20,000	

EAST INDIAN.—Continued.

APR. 16.—By the <i>Quito</i> —Singapore:		
George A. Alden & Co.....	22,500	
Poel & Arnold.....	17 500	40 000
APR. 17.—By the <i>Clan MacMilan</i> —Colombo:		
A. T. Morse & Co.....	5,000	
Carleton & Moffat.....	2,500	7,500
GUTTA-JELUTONG.		
APR. 4.—By the <i>Pathan</i> —Singapore:		
L. Littlejohn & Co.....	350,000	
Heabler & Co.....	150,000	
George A. Alden & Co.....	55,000	
Pierre T. Betts.....	55,000	
F. R. Muller & Co.....	30,000	640,000
APR. 7.—By the <i>Coulsdon</i> —Singapore:		
F. R. Muller Co.....	200,000	
L. Littlejohn & Co.....	200 000	
Pierre T. Betts.....	25,000	425,000
APR. 16.—By the <i>Quito</i> —Singapore:		
Poel & Arnold.....	80 000	
Winter & Smillie.....	55,000	135 000

GUTTA-PERCHA AND BALATA.

MAR. 26.—By the <i>Pretoria</i> —Hamburg:		
Earle Brothers.....	9 000	
MAR. 26.—By the <i>Graf Waldersee</i> —Hamburg:		
To Order.....	15,000	
BALATA.		
MAR. 27.—By the <i>Maine</i> —London:		
F. R. Muller & Co.....	6,500	
Earle Brothers.....	2,500	9 000
MAR. 31.—By the <i>Ville Rouen</i> —Havre:		
C. P. dos Santos.....	6,000	
Earle Brothers.....	1 500	7,500
APR. 2.—By the <i>Minnehaha</i> —London:		
Earle Brothers.....	3,500	
APR. 2.—By the <i>Maracas</i> —Cuidad Bolivar:		
Thebaud Brothers.....	11,500	

BALATA—Continued.

APR. 7.—By the <i>Rugia</i> —Hamburg:		
A. T. Morse & Co.....	6,000	
APR. 11.—By the <i>Noordland</i> —Rotterdam:		
Joseph Cantor.....	6,500	
APR. 13.—By the <i>Pennsylvania</i> —Hamburg:		
Earle Brothers.....	9,000	

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—MARCH.

Imports:	Pounds.	Value.
India-rubber.....	5,54,282	\$4,305,345
Gutta-percha.....	50,694	17 980
Gutta jelutong (Pontianak).....	1,332 775	36,945
Total.....	6,967,751	\$4,360,270

Exports:	Pounds.	Value.
India-rubber.....	85,518	\$ 71,683
Reclaimed rubber.....	88,410	10,619
Rubber scrap imported.....	1,276,723	\$ 89,009

BOSTON ARRIVALS.

	POUNDS.
MAR. 2.—By the <i>Saionia</i> —Liverpool:	
George A. Alden & Co.—African.....	11,745
MAR. 12.—By the <i>Sagamore</i> —Liverpool:	
George A. Alden & Co.—African.....	33,609
MAR. 13.—By the <i>Anglian</i> —London:	
George A. Alden & Co.—East Indian..	649
MAR. 27.—By the <i>Bohemian</i> —Liverpool:	
George A. Alden & Co.—African.....	11,010
MAR. 29.—By the <i>Michigan</i> —Liverpool:	
George A. Alden & Co.—African.....	1,509
Total.....	58,522
[Value \$37,295.]	

OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
February, 1906.....	6,689,727	278,642	6,411,085
January.....	6,458,513	408,846	6,049,667
Two months, 1906.....	13,148,240	687,488	12,460,752
Two months, 1905.....	17,358,964	350,856	17,008,108
Two months, 1904.....	14,141,877	473,346	13,668,531

GREAT BRITAIN.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
February, 1906.....	6,775,104	2 787,680	3,987,424
January.....	4,221,168	3,368,512	852,656
Two months, 1906.....	10,996,272	6,156,192	4 840,080
Two months, 1905.....	10,086,496	6,603,976	3,482,520
Two months, 1904.....	10,006,112	6,837 494	3,228,618

GERMANY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
February, 1906.....	4,734,840	1,447,600	3,287,240
January.....	4,221,140	1,218,580	3,002,560
Two months, 1906.....	8,955,980	2,666,180	6,289,800
Two months, 1905.....	7,231,180	2 597,980	4,633,200
Two months, 1904.....	6,144,820	2,003,680	4,141,140

ITALY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
February, 1906.....	201,300	49,720	151,580
January.....	251,680	11,000	240,680
Two months, 1906.....	452,980	60,720	392,260
Two months, 1905.....	300,520	61,820	238,700
Two months, 1904.....	218 020	3,960	214,060

FRANCE.*

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
February, 1906.....	2,407,880	1,226,940	1 270,940
January.....	2,488,640	1,240,380	1,239,260
Two months, 1906.....	4,936,520	2,476,320	2,510,200
Two months, 1905.....	4,552,460	1,940,780	2,605,680
Two months, 1904.....	3,501,800	2,288,220	1,273,580

AUSTRIA-HUNGARY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
February, 1906.....	438,460	—	438,460
January.....	249,480	440	249,040
Two months, 1906.....	687,940	440	687,500
Two months, 1905.....	533,280	660	532,620
Two months, 1904.....	535,480	3,080	532,400

BELGIUM +

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
February, 1906.....	1 264 432	869,442	394,990
January.....	2,048,757	651,649	1,397,108
Two months, 1906.....	3,313,189	1,521,091	1,792,098
Two months, 1905.....	3,110,606	1,896,239	1,214,367
Two months, 1904.....	2,626,228	2,209,972	416,256

NOTE.—German statistics include Gutta-percha, Balata, old (waste) rubber, and substitutes. British figures include old rubber. French, Austrian, and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

* General Commerce.

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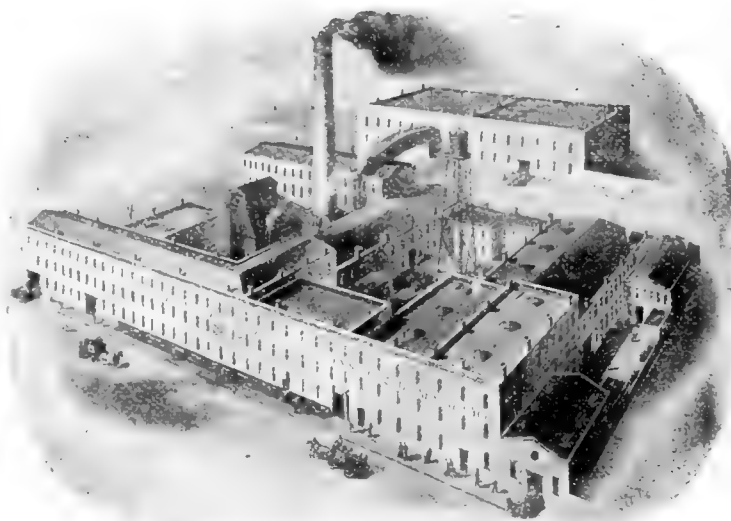
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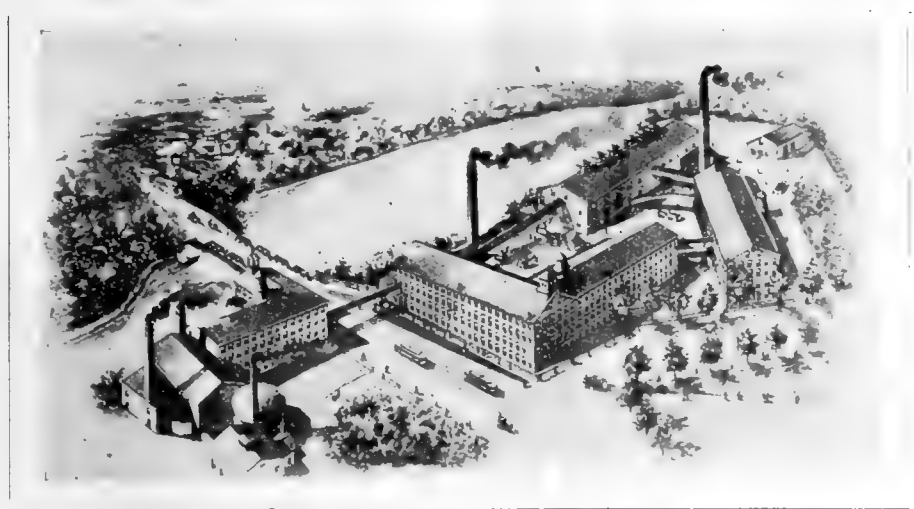
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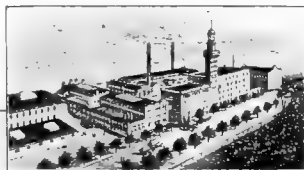
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MR. BURGESS'S REPORT ON RUBBER

IN relation to the report by Mr. P. J. Burgess on how he found plantation rubber regarded in Europe, which we summarize on another page, the first point for comment is the extreme frankness with which the results of his investigations have been stated. It is to be considered that the position held by Mr. Burgess is one created by the Federated Malay States government, at the request of the associated planters there—who, we understand, contribute to his compensation—really for the purpose of promoting rubber culture.

Mr. Burgess personally, as well as the planters in question, and their government, is enthusiastically committed to the feasibility of rubber planting; they have been encouraged by the progress made in the development of the plantations, and by the liberal rate of yield thus far. It would have been only natural, in view of such hopes as are entertained in the Malay States of a great future source of wealth in rubber, if Mr. Burgess should have given prominence to whatever he may have heard in Europe in favor of the plantation product.

On the contrary, in presenting the views derived at first hand from leading rubber manufacturers, he has prepared an official report which, on first reading, might be taken as distinctly unfavorable. Of course, this is no more than proper. If the Ceylon and Straits "Pará" rubber is wanting in merit in any way, nothing can be gained in the end in concealing any facts now—unless in the way of facilitating the sale of plantations to the European public. This, we believe, however, is not the chief motive of the Far Eastern planters. They have planted trees for their own profit, as a permanent investment, and they want to know just how to value the product, with a view to improving it if the rubber now being marketed falls below the standard they are aiming at. All this is commendable, and Mr. Burgess's report is just what is needed under the circumstances.

The essence of the report really is that the European manufacturers, who have not been indifferent to the claims of the new rubber, are not yet prepared to accept it, for general use, in the place of Pará rubber, which for more than a half century has been the standard. Plantation rubber from the Far East on arrival at the factory shows physical differences from "native" rubber; it does not adapt itself to the established factory practice; and the test of time is needed to determine how goods made from it will wear.

The manufacturer is right in maintaining a conservative policy in the matter of adopting a new material, which the Far Eastern rubber really is, even if its difference from other rubbers should in the end prove more apparent than real. It would be strange if the planters, at the outset, should have prepared their rubber in the best possible manner, and there is reason to believe that already their product is better prepared than at first. But the fact that the rubber is different in appearance,

and does require special treatment in the factory, is not necessarily unfavorable.

Ever since the industry was begun, based upon Pará rubber, supplies from new sources have been coming forward, until now less than half the rubber used is of the Pará grades. Every new sort has required special treatment, or has been found adapted to special uses, and now there are African rubbers, unheard of in Goodyear's time, selling for four times the price of good Pará when he discovered vulcanization. Plantation rubber is good rubber naturally; it will be improved in preparation; and it is bound in time to be the chief dependence of the industry. Mr. Burgess has done a good work, however, in telling the planters that they have much work before them, in order to get the best possible results.

A NEW ERA IN RUBBER EXTRACTION.

THERE has been developed, principally in connection with the Mexican shrub known as "Guayule," a very considerable interest in the extraction of commercial rubber from plants not adapted to any method of tapping. Many processes have been utilized, all based in part upon the maceration of the plant as a whole, and the ultimate separation from the mass of all the rubber contained.

As is well known, very much of the world's present supply of rubber is obtained by methods other than the tapping of the trees. A vast amount of rubber—including the South American grades marketed as "Caucho," or Peruvian—has always been collected by felling the trees and "ringing" trunks at frequent intervals, to allow the latex to escape. Gutta-percha and Balata are obtained in the same way. The *Landolphia* climbers in Africa are torn down from the forest trees, and cut into small pieces, from each end of which the latex exudes. Some millions of pounds more of rubber are gained in Africa from plants which contain the material only in the roots, the bark of which is beaten off with stones, the gummy mass resulting being boiled by the natives to separate the rubber.

It is these various practices that have so rapidly narrowed the native sources of rubber. They are all due to the fact that so much more rubber is available from certain trees and plants by other means than tapping; the "root rubber" could not be obtained at all by tapping. Before cultivation was introduced it seemed likely that in time only the *Hevea* species would be left as the world's ultimate dependence, as these are invariably tapped, even in the most remote forests. Under cultivation, however, the *Castilloa*, *Kickxia*, and some other species are capable of being tapped successfully, but there remain a number of other plants, valuable for rubber, which are not likely to yield at a profit without the destruction of the plants.

There is thus suggested a much wider field for the scientific processes lately introduced in Mexico than in

merely exploiting Guayule rubber. If the *Landolphia* climbers, for example, must be sacrificed, their yield ought to be largely increased, by scientific methods, over what is now obtained by the rude practices of the Congolese. It may be that some of the species not capable of being tapped will yet be cultivated extensively, with a view to destroying the plants and the final systematic extraction of all the rubber they contain. It would not be surprising if the owners of some of these processes, in the hunger for rubber, should even acquire plantations of trees capable of being tapped, in order to gain an immediate large return.

No doubt the widespread success of the new scientific treatment here referred to will temporarily increase the output of rubber from certain sections, but it will only hasten the destruction of existing rubber yielding plants. In any event the rubber planting interest of to-day has nothing to fear from the new condition; it may yet be the means of opening a new field of profitable planting.

It has been asserted, though of course accurate data are lacking, that more rubber can be obtained from a five year old tree by cutting it down and extracting all the latex than by tapping it for five consecutive years. The question may occur to some people, therefore: Why not do it, and replant?

There has been much condemnation of the wholesale destruction of wild rubber trees in Central and South America, whereby the unlettered natives have gained so much rubber. What will be said if scientific rubber hunters in the near future sweep over those countries, buying rubber plantations only to grind up the trees, and scouring forests for other latex bearers, every shred of which will disappear in the capacious maw of an extracting machine? But such a proceeding need not be viewed with horror. The main thing is to get rubber, and to get it quickly. The trees are not sacred, but only the rubber in them. Why not get it out, and in use, and replant fast enough to more than make up for what are destroyed?

THE PRICE OF GUAYULE RUBBER.

THE attitude of the rubber manufacturer toward Guayule is interesting. In spite of the fact that more than a million pounds have already been used, there are very many who still look upon it as a laboratory product. They feel very strongly that to use a ton or two tons would endanger whatever part of their product that rubber touched. A little reflection, however, should lead them to the conclusion that if this rubber were really dangerous many millions of dollars worth of goods would to-day have been ruined and that probably some of the users would have "gone broke." Just why the trade should not welcome any kind of rubber, no matter from what source, is not at all evident. If 20,000,000 pounds of Guayule rubber could be brought in at one time, its effect would at once be apparent in the lowering of prices of other grades. That it can be substituted for many African sorts has already been proved. It is also an established fact that in many lines of mechanical rubber goods,

and even in boots or shoes, it has done excellent service.

This is not written with the idea of booming any one company or any specific process, but rather with the hope that manufacturers to-day will encourage the production of any and all gums from whatever sources that help to swell the crude rubber volume.

Incidentally, as the whole trade knows, the price of Guayule has suddenly dropped from 60 cents to 38 cents a pound. It would seem that rubber is worth more than this, and just why a higher price is not obtainable is an unanswerable question. The lowered price, however, will doubtless largely stimulate the production of the gum, provided those who are in the business of extracting it are able to make sufficient profit to warrant their staying in business.

THE VALUE OF CONCERTED ACTION in trade matters has lately been well illustrated in the success of some leading tire manufacturers in securing materially lower freight rates from the railway companies.

IT IS A SIGNIFICANT TENDENCY in the rubber industry in America that it is proving an attractive field for even foreign chemists of repute, as indicated in our British correspondence this month. There were great business successes won in the industry here in the days when the chemist in a rubber factory was shown little respect, but the "rubber kings" of those days are gone, and it is not certain that their methods would apply to modern conditions.

THEY HAVE HEARD IN COLORADO that Indians in the Amazon valley are great rubber gatherers. Colorado has Indians, and as the white men in that state have failed to develop the much vaunted native rubber successfully, the Navajos—the local "redskins"—have been set to collecting "rabbit weed." It is reported that this year "25,000 tons of the weed can be taken, producing rubber gum worth upward of \$500,000." And all this from land which the United States Congress has leased to the "rubber" company for \$180 a year. "The Indians seem to take a great delight in their work," it is reported, but their rate of compensation has not been mentioned.

THE RUBBER FOOTWEAR TRADE evidently is becoming less dependent upon weather conditions than was once the case, judging from the latest annual report of the United States Rubber Co. That report shows a decline in value of net sales of less than $\frac{1}{5}$ of 1 per cent. as compared with last year, although there was, by all accounts, very much less of what used to be called "rubber shoe weather." And the volume of business was much larger than the average for years past. Of course, the net results of an open winter on the business of a rubber shoe manufacturer are not all apparent in the same year, in view of the fact that unsold stocks are largely held by jobbers and dealers, but any one might have seen, during the past winter, that the wearing of rubbers was general on very many days where there was no snow.

THE GREAT NUMBER OF TIRES PATENTED has led us sometimes to wonder where all the money comes from to pay the patent office fees. We have wondered even more whence the money comes to organize companies to exploit some of the freak tires. Really, much more capital is wasted in this

way than most people suppose. There has just been reported the puncture of a company formed a year ago to market a puncture proof tire, and in which considerable money was invested. The newspapers report: "The liabilities are estimated at about \$9000, and the assets consist mainly of the patent."

IF ALL THE INDUSTRIES IN THE COUNTRY should experience such an increased demand for goods as has come to the rubber men as a result of the San Francisco disaster, no doubt some people would regard such an occurrence as a general good. It may be recalled that the introduction of fire engines into China was at first resisted on the ground that without fires now and then, to make new building necessary, carpenters and some other tradesmen would suffer for the lack of work.

A LONDON FINANCIAL WRITER figures that the market quotations for shares in one of the important rubber planting companies point to a valuation of \$17 each for rubber trees at 6 years old—the age at which they become productive in the Far East. The British capitalist may be conservative by nature, but "rubber" has an exception to the rule. He certainly has gone wild over "rubber."

NEW TRADE PUBLICATIONS.

THE Sundries Department Catalogue of the Cleveland Rubber Works of the MECHANICAL RUBBER CO. (Cleveland, Ohio) contains illustrations and descriptions of an extensive line of rubber goods for the druggists', surgical, and stationers' trade, together with prices. The catalogue is well got up and the illustrations are particularly well executed. [6" × 9". 88 pages.]

TYER RUBBER CO. (Andover, Massachusetts) issue a handsome brochure with the title "Golden Anniversary for the 'Tyrian' Rubber Goods," being devoted to a story of fifty years of growth of this important druggists' sundries manufacturing company. It is illustrated with views of the factory buildings at various stages of progress, beginning in 1856. [7½" × 5¼". 18 pages.]

W. D. ALLEN MANUFACTURING CO. (Chicago) issue their Catalogue No. 22, devoted to their manufactures, many of which are adapted for use in connection with rubber goods—particularly their hose racks and hose reels, hose couplings, lawn sprinklers, nozzles, and the like. The company are manufacturers of Packings in large variety. [6½" × 9¼". 64 pages.]

CHARLES E. MILLER (New York), in his Automobile Catalogue No. 8, describes and illustrates a great variety of Automobile, Motor Boat, and Motor Cycle parts and accessories, including many articles into which rubber enters, including the leading makes of tires. Mr. Miller claims to have "the largest automobile supply house in America." [7½" × 9¼". 200 pages.]

ALSO RECEIVED.

INDIA Rubber Specialty Co., Erie, Pennsylvania. I. R. S. Brand of Rubber Goods. [Mail order house.] 64 pages.

Pennsylvania Rubber Co., Jeannette, Pa. New Tires for Old 8 pages.

"Ideal" Carriage Washer Co., Rochester, New York. "Ideal" Carriage and Automobile Washer. 16 pages.

THE OBITUARY RECORD.

W. H. CUMMINGS.

WILLIAM H. CUMMINGS died on the evening of May 9 at his home, No. 380 Bergen avenue, Jersey City, after a brief illness. Accompanied by Mrs. Cummings, he had devoted a vacation of several weeks to travel in the southern United States and in Mexico, and immediately after their return home both were attacked by pneumonia, and Mrs. Cummings was still seriously ill at the time of her husband's death.

Mr. Cummings was born November 5, 1844, at Troy, New York, whence his family removed, while he was still very

young, to Jersey City. His father, also named William H. Cummings, was at one time prominent in the car building industry, and established the Cummings Car Works at Jersey City. Upon his death the son, associated with an older brother, succeeded to the business, and in 1868 they built more extensive works at West Bergen, but the



WILLIAM H. CUMMINGS.

business was liquidated after the financial panic of 1873.

The subject of this sketch shortly after the date last mentioned engaged in the business of commission merchant in old rubber scrap, which he conducted successfully to the end of his life. His business was located in New York city, and latterly at Nos. 54-56 Harrison street. He had three sons, who became interested in the business successively as they grew up, and for a number of years the style of the business has been William H. Cummings & Sons. The business is being continued under the same firm style by the three brothers, William L., Edward O., and Harold H.

Mr. Cummings was one of the two oldest members of the West Side Methodist Episcopal church, in Jersey City. He was a member of the official board and actively interested in the affairs of the church, and in other charitable work. He was a member of the board of directors of the Home of the Homeless, and was deeply interested in the work of the Newman Mission. Mr. Cummings became very widely known in the rubber trade, during his connection with it of more than 30 years, and formed many warm friendships. Funeral services were conducted at the late home of Mr. Cummings on Saturday afternoon, May 12.

* * *

WILLIAM FIRTH.

THE death is reported, at Edinburgh, Scotland, on April 30, of WILLIAM FIRTH, at the age of 78. Mr. Firth filled the position of secretary of the North British Rubber Co.,

Limited, from the formation of that company, in the summer of 1857, continuously for 48 years. In reporting his retirement from that position THE INDIA RUBBER WORLD [June 1, 1905] stated that he had outlived all the founders of the company and the original directors and officers, and practically all the original employes of whatever capacity. His devotion to their interests, for so long a time, was of great benefit to the company, while his personal character was such as to endear him to all with whom he was associated.

* * *

CARL VON SIEMENS.

THE death is reported at Mentone, France, of Carl Heinrich von Siemens, in his seventy-eighth year. He was born at Menzendorf, in Mecklenburg, on March 3, 1829. His brothers owed much to him for the energy with which he helped to further the extension and practical application of their inventions, more especially in Russia. During many years he conducted the manufactory of the Messrs. Siemens, at St. Petersburg, for telegraph apparatus, dynamos, etc. During eleven years he was in London, assisting in the management of Siemens Brothers & Co., Limited (of which he was chairman of the board at the time of his death), but after the death of Dr. W. von Siemens he took up his residence in Berlin. Carl von Siemens was personally in charge of the laying of the first transatlantic cable contracted for by the firm of Siemens Brothers. He received decorations from various countries in acknowledgment of his services, and hereditary rank of nobility was conferred upon him in Russia in 1895.

* * *

THOMAS D. QUINLAN, a traveling salesman for the Good-year Rubber Co., and connected with that company for many years, died at the residence of his parents at Detroit, Michigan, on May 10.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values of exports of manufactures of India rubber and Gutta-percha, for March, 1906, and the first nine months of five fiscal years, beginning July 1, from the treasury department at Washington:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber	TOTAL.
March	\$108,100	\$ 37,438	\$ 289,239	\$ 434,777
July-February	834,554	1,303,164	1,836,312	3,974,030
Total	\$942,654	\$1,340,602	\$2,125,551	\$4,408,807
Total, 1904-05....	670,551	1,062,731	1,831,748	3,565,030
Total, 1903-04....	667,567	946,439	1,796,522	3,410,528
Total, 1902-03....	596,799	948,505	1,623,362	3,168,666
Total, 1901-02....	457,003	914,455	1,252,572	2,624,030

NEW JERSEY LAW ON TIRES.

THE new Motor Vehicle law in New Jersey, adopted during the past month, contains this prohibition of chain grips on automobile tires:

No motor vehicle shall be fitted with a chain when used except on gravel, macadam, or other made roads, except upon natural dirt, asphalt, cobble, Belgium block or vitrified brick pavements; provided, however, that tires may be fitted with a chain when used upon roads covered with a coating of at least one inch of snow or ice.

THE UNITED STATES RUBBER CO.'S ANNUAL REPORT.

THE fourteenth annual meeting of the shareholders of the United States Rubber Co. was held at 12 o'clock M., on May 15, at the registered offices of the company in New Jersey, at New Brunswick. The annual reports of the president and treasurer were presented and accepted, and directors elected for the ensuing year. The proposed amendment to the by laws, quoted in the May 1 issue of this Journal (page 267), was adopted. The official reports are presented herewith in full:

PRESIDENT'S ANNUAL REPORT.

TO THE STOCKHOLDERS OF THE UNITED STATES RUBBER CO.: Your company has continued to prosper during the past year notwithstanding weather conditions have been generally unfavorable to the rubber boot and shoe trade.

TREASURER'S REPORT.—The treasurer's report hereto attached gives the result in detail of the operations of the company and its subsidiary companies (other than Rubber Goods) for the fiscal year ending March 31, 1906.

PROFITS.—The net profits for the year are \$3,881,270.23 as against \$3,761,922.63 the previous year. For comparison, however, \$276,769.97, being the amount of dividends received upon the preferred stock of the Rubber Goods Manufacturing Co. held by this company, should be deducted, leaving \$3,604,500.26 as the net earnings of the United States Rubber Co. and its subsidiary companies (exclusive of the Rubber Goods company). The surplus of the company and subsidiary companies (exclusive of Rubber Goods company) at the close of this year is \$5,022,279.72, as against \$3,987,101.49 last year.

VOLUME OF BUSINESS.—The net sales of the company for the year were \$32,868,594.00, as against \$32,931,210.86 the previous year—a slight falling off, due undoubtedly to the exceptional

mildness and absence of snow that characterized the winter upon the Atlantic seaboard.

EMPLOYEES' PROFIT-SHARING PLAN.—The beneficial results of the employees' profit-sharing plan instituted about two years ago are emphasized more and more as time passes, and thus far there has developed no point of weakness in the plan.

CONDITION OF FACTORIES AND MACHINERY.—The extensive manufacturing plants belonging to the company, as well as the machinery and tools, have been kept up to the high standard of efficiency maintained during the past few years and the cost thereof charged in expense accounts.

DIVIDENDS.—The company has paid its regular quarterly dividends at the rate of 8 per cent. per annum upon its first preferred stock, and at the rate of 6 per cent. per annum upon its second preferred stock issued during the year under the contract of May 12, 1905, with A. N. Brady, syndicate manager, approved by the stockholders in special meeting, May 25, 1905. No dividend has been paid upon the common stock.

It has been the policy of the directors to strengthen the company by adding to its surplus and by improving its efficiency in order to give assurance of the continuance of dividends upon its preferred stocks before the resumption of dividends upon the common stock, it being believed that in the end this conservative policy will result to the best interests of all the stockholders.

It is to be desired that in industrial properties there shall be established stability and regularity of dividends, such as obtain in the best railway properties; for example, New York Central railroad, having paid dividends at the rate of 5 per cent. for some years past, is valued at over \$135 per share, and Pennsylvania railroad, now paying 6 per cent., at about the same price—the average yield of the two stocks being less than 4½ per cent. At \$133 per share our first preferred stock and at \$100 per share our

TREASURER'S REPORTS.

UNITED STATES RUBBER CO. AND SUBSIDIARY COMPANIES.

[Not including Assets or Liabilities of Rubber Goods Manufacturing Co., or of its Subsidiary Companies.]

CONSOLIDATED GENERAL BALANCE SHEET, MARCH 31, 1906.

ASSETS.

Property and plants (including shares of R. G. M. Co.)		\$ 72,161,025.12
Inventories, mfd. goods and materials	\$16,691,911.46	
Cash	2,275,805.78	
Bills and loans receivable	2,710,163.58	
Accounts Receivable	8,570,596.56	
Securities Owned	7,519,864.94	
Miscellaneous Assets	502,368.51	38,270,710.83
Total Assets		\$110,431,735.95

LIABILITIES.

Capital stock, First Preferred	\$35,067,000.00	
Capital stock, Second Preferred	9,586,300.00	
Capital stock, Common	25,000,000.00	\$ 69,653,300.00
Boston Rubber Shoe Co., debentures	4,800,000.00	
U. S. Rubber Co., funding notes	8,000,000.00	
Fixed surpluses (Subsidiary companies)	8,134,849.37	
Loans and notes payable	\$9,899,928.91	
Merchandise accounts payable	2,842,430.29	12,742,359.20
Deferred liabilities		233,798.16
Reserve for depreciation of securities		1,000,000.00
Reserve for dividend		845,149.50
Surplus		5,022,279.72
Total Liabilities		\$110,431,735.95

[NOTE.—Haskell & Sells, public accountants, certify that on March 31 the quick assets exceeded liabilities other than capital and surplus, to the extent of \$12,102,090.78.]

UNITED STATES RUBBER CO. AND SUBSIDIARY COMPANIES.

[Not including Earnings of Rubber Goods Manufacturing Co., or of its Subsidiary Companies.]

CONSOLIDATED INCOME STATEMENT FOR YEAR ENDING, MARCH 31, 1906.

Gross sales, boots and shoes and miscellaneous	\$54,723,756.53
Net sales, boots and shoes and miscellaneous	\$32,868,594.00
Cost of goods sold	26,482,328.53
Manufacturing profits	\$6,386,265.47
Freight, taxes, insurance, general and selling expenses	1,480,760.26
Operating profits	\$4,905,505.21
Rubber Goods Mfg. Co., dividends as adjusted	\$276,769.97
Other income	102,798.19
Total income	\$5,285,073.37
Less:	
Interest and commission on Funding notes and borrowed money	\$900,789.73
Interest on Boston Rubber Shoe Co. debentures	240,000.00
Interest allowed customers for prepayments	193,780.40
Net income to surplus	\$3,950,497.24
Deductions for bad debts, etc.	69,227.01
Total Surplus	\$3,881,270.23
Dividends	2,846,092.00
Surplus for period	\$1,035,178.23
Surplus April 1, 1905	3,987,101.49
Surplus March 31, 1906	\$5,022,279.72

JOHN J. WATSON, JR., Treasurer.

second preferred stock would each yield 6 per cent. upon the investment. Upon such considerations, it has seemed conservative and just to defer dividends upon the common stock at least until such time as the management shall be reasonably satisfied that, having begun their payment, the same can be maintained, although, —even without present dividends in cash, the common stock, by enhancement of value through accumulation of a surplus, will have shared in the prosperity of the company.

RUBBER GOODS MANUFACTURING CO.—Over 80 per cent. of the capital stock of the Rubber Goods Manufacturing Co. has been acquired by the United States Rubber Co. during the year, under the contract of May 12, 1905, above mentioned, with A. N. Brady and other directors. This has been accomplished through the exchange of the preferred and common shares of the Rubber Goods company for the first and second preferred shares of the United States Rubber Co. As shown by the application, dated October 5, 1905, to the committee on stock list of the New York Stock Exchange, of which printed copies can be obtained, on that date there had been issued under that contract 51,148 shares of first preferred stock for an equal amount of Rubber Goods first preferred stock, and 83,873 shares of second preferred stock for 137,163 shares of the common stock of the Rubber Goods Manufacturing Co. Since that date additional exchanges have been made, and may yet be made, under authority of the directors.

The beneficial results to both companies of this acquisition your directors believe will be very great. Heretofore, the product of the United States Rubber Co. has been confined almost exclusively to rubber footwear, of which the use is dependent, more or less, upon the severity of the winter—while the Rubber Goods company manufactures no footwear, but a great variety of miscellaneous rubber goods, as, for example, belting, packing and hose, automobile, bicycle and carriage tires, flooring, clothing, druggists' sundries, etc. In general, both companies use the same raw materials, and both have had distributing agencies in the same centers. Consequently, savings can be effected in the purchase of supplies and the distribution of goods, and the diversity of product tends to equalize the volume of business and the profits in years of varying character.

Rubber footwear, though, as already observed, in some degree dependent upon the weather, is a necessity, and therefore its sale is not specially affected by general conditions of trade. Practically the opposite is true as to rubber miscellaneous goods. This is aptly illustrated by the business in the past mild winter under trade conditions generally favorable. The net sales of the United States Rubber Co. for the year show a slight decrease compared with those of the previous year, while those of the Rubber Goods company show an increase of over \$3,000,000.

Should the next winter be severe, and general business decline, it may be expected that the sales of the United States Rubber Co. will increase to a greater extent than will those of the Rubber Goods Manufacturing Co.

The dissolution of the Rubber Goods Manufacturing Co. may be effected at any time by the United States Rubber Co. owning much more than two thirds of its shares, but for the present such dissolution is held in abeyance.

EXPORT BUSINESS.—Our exports of rubber footwear during the past year, although still relatively small, show a gratifying gain over any previous year.

GENERAL RUBBER CO. AND CRUDE RUBBER.—The cash capital of the General Rubber Co. has been increased during the year from \$1,000,000 to \$3,000,000, the additional stock having been subscribed and paid for: \$1,000,000 in the interest of the United States Rubber Co., and \$1,000,000 by the Rubber Goods Manufacturing Co. In order to provide ample working capital for the important business to be transacted by the General Rubber Co., there have been authorized \$9,000,000 of 4½ per cent. ten-year debentures of that company. \$6,000,000 of these debentures have been sold, guaranteed by the United States Rubber Co. and the Rubber Goods Man-

ufacturing Co., and the remaining \$3,000,000 are retained for future requirements.

The most important problem of the future to the manufacturing interests of this company is the obtaining of its requirements of crude rubber to the best advantage, and your president looks upon the formation of the General Rubber Co., with its large capital and resources, as one of the most important steps taken by the United States Rubber Co. With the control of the Rubber Goods company, the United States Rubber Co., has become by far the largest consumer of crude rubber in the world, and your president feels that the advantages that may reasonably be expected to result from our present facilities for handling this branch of our business can hardly be overestimated, and are a guarantee of the future prosperity of this company.

OTHER PROPERTIES.—As it has been found that your company could manufacture for less than it can purchase certain articles which enter into or form a part of its goods, important additions in this direction have been made during the year. For such and other acquisitions, which have been made by authority of the board of directors, through directors and others, all as set forth in its minutes, there have been issued shares of first preferred stock, in addition to those outstanding October 5, 1905.

EXCHANGE OF CERTIFICATES.—A large proportion of the certificates for (original) preferred stock have been exchanged for those of the first preferred stock authorized at the meeting of May 25, 1905. It is desirable that the remainder of the (original) preferred stock now outstanding shall be exchanged, as the old certificates have ceased to be a delivery on the New York Stock Exchange.

Owing to the importance of the transactions during the year, this report will be sent to the stockholders in advance of the annual meeting, and as usual the record books of the directors and the executive committee will be open for inspection by stockholders at the annual meeting. Respectfully submitted,

SAMUEL P. COLT, President.

New Brunswick, New Jersey, May 15, 1906.

THE ANNUAL ELECTION.

NINETEEN directors were chosen, being two more than last year. The seventeen members of the old board were reelected. The new members are Messrs. Dale and Kelley, representatives of the Rubber Goods Manufacturing Co. interest. The number of terms for which each member of the board has been chosen is indicated:

WALTER S. BALLOU, Providence, Rhode Island. [Fourth term.]
ANTHONY N. BRADY, No. 54 Wall street, New York. [Third term.]

ELIAS C. BENEDICT, No. 80 Broadway, New York. [Fifth term.]

SAMUEL P. COLT, Bristol, Rhode Island. [Fifteenth term.]

HARRY E. CONVERSE, Boston, Massachusetts. [Ninth term.]

COSTELLO C. CONVERSE, Boston, Massachusetts. [Sixth term.]

CHARLES H. DALE, No. 16 Warren street, New York. [First term.]

JAMES B. FORD, No. 42 Broadway, New York. [Fifteenth term.]

J. HOWARD FORD, No. 42 Broadway, New York. [Fifteenth term.]

FRANK S. HASTINGS, No. 80 Broadway, New York. [Second term.]

FRANCIS L. HINE, No. 2 Wall street, New York. [Fourth term.]

HENRY L. HOTCHKISS, New Haven, Connecticut. [Fifteenth term.]

ARTHUR L. KELLEY, Providence, Rhode Island. [First term.]

LESTER LELAND, Boston, Massachusetts. [Eighth term.]

FREDERICK M. SHEPARD, No. 787 Broadway, New York. [Fifteenth term.]

FRANCIS LYNDE STETSON, No. 15 Broad street, New York. [Fifth term.]

WILLIAM H. TRUESDALE, No. 26 Exchange place, New York. [Second term.]

JOHN D. VERMUELE, No. 503 Broadway, New York. [Tenth term.]

JOHN J. WATSON, JR., No. 42 Broadway, New York. [Second term.]

The newly elected board met in New York on May 19, and, after organizing, reelected the following officers and executive committee for the ensuing year:

President—SAMUEL P. COLT

First Vice President—JAMES B. FORD.

Second Vice President—LESTER LELAND.

General Manager—HOMER E. SAWYER.

Treasurer—JOHN J. WATSON, JR.

Assistant Treasurer—W. G. PARSONS.

Secretary—SAMUEL NORRIS.

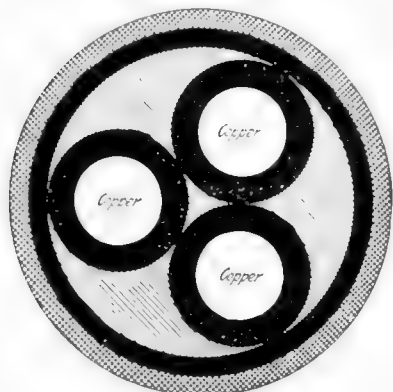
Assistant Secretary—JOHN D. CARBERRY.

The Executive Committee consists of Samuel P. Colt, James B. Ford, Lester Leland, E. C. Benedict, Walter S. Ballou, and Anthony N. Brady.

PAPER V. RUBBER INSULATION.

PRIOR to 1895 electric power cables were insulated almost exclusively with India-rubber. About that time paper was introduced as a substitute for rubber for cable insulation, but it was slow taking hold on the engineers, because those gentlemen looked upon the innovation with suspicion. Persistence won out, however, and to-day many large users of electric cables are using none but those with paper insulation. In *Engineering News* (March 15) Mr. W. I. Tamlyn points out some of the more objectionable features of the different types of insulation. It is admitted that both paper and rubber are in successful use in many places, and have been for a number of years, so that the test of time cannot be called in to settle the question of preference. Mr. Tamlyn considers the subject with particular reference to cables for three-phase distribution, to sub stations in cities. Cables for this service run in tile conduits underground, are of the three conductor type, and are usually operated at a frequency of 25 cycles and at potentials from 6000 to 12,000 volts.

A study of the accompanying illustration will make clear



— = Insulation
 // = Jute Filler
 X = Lead Sheath

the difficulty of insulating the conductors in the type of cables under discussion. The cable shown in the picture is used in New York and carries a voltage of 6600. The conductors are each composed of 37 strands of copper, equivalent in conducting to No. 0000 A. W. G. solid wire. The insulation around each conductor is $\frac{3}{16}$ inch thick, while that

between the three conductors and the lead sheath is $\frac{1}{8}$ inch thick. The whole cable is $2\frac{5}{8}$ inches in diameter. Between each pair of conductors there is a wall of insulating material $\frac{3}{8}$ inch thick to withstand an effective voltage of 6600. There is $\frac{5}{16}$ inch of insulation between any conductor and the lead sheath.

There is one point upon which there is no dispute, says Mr. Tamlyn, and that is that the first cost of paper cables is less than the first cost of rubber cables, the difference being approx-

imately in the ratio of \$1.25 for paper to \$2 for rubber. That being established, there arises the question of cost of maintenance and depreciation. These costs, if they have been determined, are not published, and it is practically impossible to get data concerning them.

Both paper and rubber cables are usually encased in a sheath made of lead with a small percentage of tin, or of lead with a thin coating of tin outside. Lead, like all other metals, is subject to electrolysis due to the return currents from grounded electric systems. The effect is to cause holes in the lead sheath, through which gases, moisture, etc., find their way. If moisture gets into paper insulation, the paper absorbs the water and becomes practically a conductor, thereby disabling the cable. It is said that trouble of this kind can usually be detected by the regular insulation tests before a burn-out takes place. The water in conduits and manholes of underground systems in cities holds in solution various acids and other solutions which are destructive to rubber. Besides, there are always present oils and gases that tend to deteriorate rubber. This deterioration, when it does occur, takes place so rapidly as to cause a burn-out before any trouble can be detected. These points, Mr. Tamlyn holds, go to show one advantage of the paper type of insulation over that of rubber.

It is pointed out that while the life of paper insulation may be said to be measured by the life of the protecting sheath of lead, it is yet to be proved that the life of rubber insulation is independent of the life of the sheath. It is said that when paper was first used for insulation it was unsatisfactory because it frequently cracked. This difficulty has been largely overcome by the employment of improved methods of treating and applying it, so that paper insulation as now made is said to last almost indefinitely, provided it is kept perfectly dry.

Where rubber insulation is used, the vulcanized form is preferred because of its greater mechanical strength and flexibility, and because it can stand a higher temperature. Vulcanized rubber, while more durable than pure rubber, is by no means free from deterioration. In order to afford good and reliable insulation against high tension currents, it must be made of a good quality of rubber, and great care must be used in the vulcanization.

Several years ago the New York Edison Co. made a series of tests of the energy loss in paper and rubber insulated cables. The results were so favorable to the paper type that since 1899 this company has installed no rubber cables except in a few places where the cables are subject to mechanical injury or other exceptional conditions.

It has been suggested that the ideal cable would be a combination of both rubber and paper. Some of these have been made, but were not a success because they carried the disadvantages as well as the advantages of both types.

In summing up, Mr. Tamlyn finds that neither kind of insulation is perfect. Each has its good qualities and its bad qualities; and each has its warm adherents whose fealty cannot be shaken. In a given case the success or failure of a cable depends largely upon the care used in the design and manufacture and upon service conditions.

GUAYULE rubber in considerable quantities is being shipped from Tampico, Mexico, principally to London and Antwerp. One shipment of 7416 kilos is mentioned.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

IN recent months two references have been made in these notes to British firms who have added Balata belting to their existing manufactures. On the Continent also, especially in Germany, several firms have gone in for the business, so although the position of the Messrs. Dick, of Glasgow, as the principal producers, may not be seriously threatened, yet they must assuredly be feeling the increased competition. There is no doubt that Balata belting is increasing in popularity; though it is not suitable for hot situations, it is certainly superior to leather where continuous damp has to be reckoned with and the facility with which joints can be made yielding a smooth surface has popularized the belt for dynamo running. With regard to the price of the raw material, it does not seem that the new business will bring about much change. For some years the demand has not kept pace with the amount the merchants in the Guianas and Venezuela wished to put on the market, and when a friend of mine wrote from Venezuela two years ago to ask what was the matter with the trade I could only suggest that the decline in the solid gutta golf ball might have a good deal to do with it. It was suggested to me that the slackness in the submarine cable industry might have had to do with it, but unless I am much mistaken I don't think that Balata figures much in this class of work. Although there seems to be plenty of the raw material available, the difficulties in the way of its exploitation are such that the price is unlikely to show any real diminution from what has ruled for so long. If I am correctly informed the stuff cannot be gathered, and sold at a profit in England at less than 1s. 7d. per pound, so it may be taken that this represents the bottom price and that any change will be in the upward direction. From some figures at my disposal I understand that in Dutch Guiana, where tapping the trees is in vogue, the mean daily collection of one man is 7 gallons of latex, yielding 4 pounds of Balata per gallon: at 1s. 7d. per pound this works out at £2 4s. 4d. I don't know how much of this goes to the actual gatherer, but I suppose that the *crux* of the matter lies with him whether he gets enough to tempt him to undertake work which is associated with such difficulties and dangers.

At the fifth International Congress of Applied Chemistry, held in Berlin, the subject of rubber analysis was brought forward by the late Dr. Weber. At the recent congress held in Rome, in April, it is seen that the mantle of the departed has fallen upon Dr. E. Marekwald, of Berlin, the subject of whose paper, done into English, was the actual condition of the analytical chemistry of rubber, including its derivatives and manufactured goods. Pending the publication of the paper, I must perforce content myself with a brief reference to it. Judging by the numerous scientific articles that have appeared in the *Gummi-Zeitung* (Dresden) during the last year or two, it is clear that the pioneer work done by Henriques and Weber has attracted quite a number of German chemists who will have to fight out among themselves the question as to which the layman is to consider as the greatest authority.==The Editor of *Tire and Motor* (New York) recently impressed upon

his readers the fact that no one man was an expert in all branches of the rubber trade. No doubt this is true though the statement may not prove particularly palatable to the rubber expert in practice who is spreading his net far and wide to catch business. I see that Dr. W. A. Caspari, late chemist at the National Physical Laboratory, has commenced practice as a consultant in London. It is of course the ignorance of a humble journalist and no reflection whatever upon the doctor referred to that his name in connection with the subjects of this Journal was new to me until his paper on Balata and its resins was published in the Journal of the Society of Chemical Industry. Apropos of the National Physical Laboratory I may say that owing to the strong representations made by the Institute of Chemistry, the practice of undertaking ordinary professional work is to be discontinued. It was obviously unfair that an institution supported by public funds and intended specially for research and the standardization of instruments should enter into competition with professional chemists.==Following the lead of the late Dr. Weber and Mr. Heyl-Dia, Dr. Meyer, late chemist to the St. Helens Rubber Co. has taken up a post at an American rubber factory. It would appear that there are more prospects for the rubber chemist in America than in England though the British factories seem to afford good training grounds.

As was not unexpected, the Anglo-Sicilian Sulphur company will shortly come to an end. Its action in reducing the output in Sicily and in regulating prices has had a good effect upon the industry, which it is now to be feared has somewhat troublous times before it. The direct cause of the above development is of course the utilization of the immense sulphur deposits in Louisiana, whereby the demand of America, which has always been Sicily's largest customer, will be fully met. Moreover, it is quite possible that America may do an export business. Another large customer for Sicilian sulphur is Scandinavia, in connection with the sulphite cellulose trade, and it seems probable that this business will largely decrease, owing to the use of Norwegian pyrites instead of sulphur. Whether or not the rubber trade will benefit by the break up of the Anglo-Sicilian company it is difficult to say at present, but I should the tendency must be towards lower prices, though, of course, it is quite possible that America and Sicily will come to some arrangement to prevent disastrous competition.

PERHAPS those who were involved in the recent trouble in Russia will think my headline rather too mild. Certainly the state of affairs at the big Prowodnik-Riga rubber works as related to me by one who was there at the time was alarming enough, though so many other events of the sort were happening in the country at the same time that no detailed notice has appeared in the English press. It appears that at the outbreak of disaffection troops, mostly Cossacks, were quartered within the confines of the works and, owing doubtless to race hatred between the workmen, who are Litheranians, and the Cossacks, as much as to anything else, the soldiers to

BALATA
BELTING.SULPHUR
TRADE.SOME
RUBBER
CHEMISTS.THE UPSET
IN RUSSIA.

the number of 29 were done to death during the night. There seems no evidence that this was the work of the factory hands, but the soldiers' comrades evidently took it to be so and in the course of the next day shells were discharged at the works, doing a large amount of damage and bringing down the roof with its elaborate arrangement of sprinklers. My informant along with others beat a hasty retreat into an empty vulcanizing pan, which seemed best adapted to withstand the artillery, and here he had plenty of leisure to ruminate on the superior advantages of employment in a British factory as compared with some other countries. Unfortunately, the German manager of the golosh department went to the gate and was shot by a soldier. The works were closed down for 3 weeks and a government enquiry was held, but things have now resumed a normal condition.

As an addendum to the above, a word or two about the business may be of interest. The fourteen departments into which the manufactures are divided seem to comprise everything of importance that is made of rubber. The capacity of the

THE PROWODNIK
FACTORY.

works is evident from the fact of about 5000 workpeople being employed and the available horse power of the engines being 3000. The annual output of goloshes of one sort and another is put at over 8,000,000, China and other Eastern countries being large customers. The newest department is that of elastic thread, in which considerable progress has been made, though no doubt it will take a little time to earn the entire confidence of the Russian weaving mills, so as to get the business so long held by the British thread manufacturers. In contradistinction to what has obtained of late years in Great Britain the rubber proofed garment trade has assumed increased importance in Russia and the Riga company are putting down new spreading machines, as an addition to their plant. Both sexes of the upper classes have taken to wearing these garments in the summer months, the new demand being for well made goods of light make. The heavier proofed cloth for military uniforms has for long been a regular article of manufacture. With regard to the rubber sponge, in which the two big Russian works so long had all the business, the monopoly has broken down, owing to the secret of manufacture having been gained by other countries. China, I understand, is a large buyer of the rubber sponge.

An interesting article on this subject appears in the *India-Rubber Journal*, from the pen of Mr. H. P. Stevens. In advocating that the amount of water in rubber should be taken into consideration in fixing the price, the author is echoing what has often

MOISTURE IN
RAW RUBBER.

been said before, but which has never made any progress towards fulfilment. This is not altogether due to conservatism or indifference; it is due to some extent, I imagine, to a feeling that there are onerous difficulties in the way and that the other cases quoted in favor of the change are not strictly parallel. Take, for instance, wood pulp, which is especially referred to by Mr. Stevens. This is a manufactured article and not a raw product, and the amount of moisture can be fairly accurately determined. I say fairly accurately, because it has been shown that the water is by no means uniformly distributed in the sheets, and unless a very particular procedure is adopted in sampling widely differing results may easily be obtained. I am not aware that any detailed work has been done to see how the water is distributed, in

say a Pará biscuit, and if the proposed change is to be adopted it would be necessary to specify the details of the test very closely if disputes are to be avoided between buyer and seller. And apart from the sampling the heating of rubber to deprive it of moisture may easily be carried too far and thus lead to increase of weight by oxidation. I am not, in saying this, wishful of condemning the proposed procedure; I merely wish to point out that any such change must not be adopted without a careful consideration of the whole circumstances. If its inherent difficulties could be overcome—and I see no reason why they should not—the desirability of the change needs no emphasis when one considers the relative prices of rubber and water. Mr. Stevens says he has not seen any figures showing that plantation rubber is drier than South American, and that if this is so the fact ought to be taken into consideration in fixing the price of the former. I thought that it was well known that the reason of the plantation rubber fetching the higher price was due entirely to its less moisture, and that when the relative moistures are duly taken into consideration the native product really fetches the higher price with regard to actual rubber present.

THE severance of the connection between Mr. Johnson and Messrs. Spencer Moulton & Co., of Bradford-on-Avon, comes as a surprise to his many friends. In his

MR. J. JOHNSON.

capacity of manager Mr. Johnson was popular with the work people and to a no less extent with those such as travelers seeking business. These invariably met with a courteous reception there being nothing of the "man-in-power" demeanor about Mr. Johnson. His father, it may be mentioned, filled for many years the important post of chief locomotive engineer to the Midland Railway Co.

AFRICAN rubber has largely taken the place of fine Pará rubber in late years for solution making, and where the product is sold at a corresponding reduction in price there is little to be said against it. Now that solution making has passed so largely out

RUBBER
SOLUTION.

of the hands of the regular works into those of the cycle repair and outfit dealers, it is not surprising that many alterations in procedure are to be noted. One of these is the use of recovered rubber—not that which is produced from old vulcanized goods, but which is got by special processes from certain former of factory waste. One such description of waste is the felt cuttings from the tennis ball manufacture, the felt being faced with pure rubber solution, in order to effect its adhesion to the rubber ball. It follows, therefore, that when pure rubber can be got from a variety of sources some dealers in solution will be able to obtain their material more cheaply than others, and accordingly will be able to sell a compounding article at a lower rate than others who buy direct from the rubber factory. That there is a substantial profit in the solution business is evident from the fact that the highest priced rubber which comes to England (from the new plantations in Ceylon) is brought largely by solution makers, some of the general rubber manufacturers regarding it too expensive for their uses.

THE Mitado Rubber Manufacturing Co. (Mitado Gomu Seizo Gomei Kaisha), of Tokio, Japan, perhaps the largest of the companies making mechanical goods in that country, is mentioned by a correspondent of THE INDIA RUBBER WORLD as having engaged successfully in the manufacture of bicycle tires.

RUBBER PLANTATIONS AND THEIR PRODUCT.

THE NEW RUBBER AS VIEWED IN EUROPE.

THE government rubber expert of the Federated Malay States, Mr. P. J. Burgess, M. A., F. C. S., has completed his report on a visit of six months to Great Britain, to investigate the India-rubber industry in its relation to the growth and preparation of raw rubber in the Malay peninsula. Being well introduced, he appears to have had no difficulty in gaining access to leading manufacturers and learning the details of manufacture, and also the views of the trade in regard to plantation rubber.

He states that he met uniformity of opinion among those who had practically made trial of Straits and Ceylon rubbers. All were agreed that the rubber was good and very serviceable, but by no means as good as South American fine Pará, either hard or soft cured. The plantation rubber is lacking in "nerve", it works soft between the masticating rollers, and its keeping qualities are inferior to South American Pará. After vulcanization the tensile strength is less and the elastic recovery of shape after deformation by stretching or compression is less perfect than shown by South American Pará under precisely similar conditions.

In several cases, notably at Silvertown, where accurate tests of all rubbers used are carried out, the recorded figures showed an inferiority of 8 to 15 per cent., with different samples of plantation as compared with native Pará rubber. The inferiority of the former was not confined to those physical properties capable of immediate measurement, but was also shown in the keeping qualities of the rubber. Samples of plantation rubber two and three years old had all shown marked deterioration, whereas samples of South American Pará of ages up to and over 40 years had preserved perfectly their tough and elastic qualities. While this feature of plantation rubber may have been due to errors committed in preparation of the samples two or three years ago, it confirms practical users of rubber in their opinion that plantation rubber is not reliable, and certainly not the equal of South American Pará.

The cause of the inferiority of plantation rubber is not known. Some manufacturers believe it to be due to differences in the locality, climate, and conditions under which the trees have been grown; others that it is the result of different modes of curing and exporting, and again difference in the age of the tree from which the rubber is gathered may be the reason for difference in quality. Mr. Burgess makes a further suggestion, which he believes has not before been made. The rubber trees of South America which are tapped are the finest and most sturdy in the forest—the result of the survival of the fittest. Naturally only the best specimens become mature, and the native in tapping selects the best of the trees he conveniently can. On the plantation all the trees which survive the first planting are tapped on attaining sufficient size.

Mr. Burgess proposes to endeavor to ascertain by tapping selected trees on the plantations whether the rubber extracted is of finer quality than that of the average rubber on the same ground. To make his test more thorough he has had made in Manchester machines for practically working up and vulcanizing rubber, with which to make test pieces of

vulcanized rubber from the product of trees grown in various localities, of different age, and cured in different ways, making likewise physical tests of such rubber, and of samples of South American Pará.

Mr. Burgess does not feel in a position to say how rubber should best be coagulated and prepared for export, but is inclined to recommend that as little as possible in the way of acids be added to the latex. Where a washing machine is used the milk might, he thinks, be allowed to coagulate by simply standing 24 or 36 hours. Manufacturers seem to object to the use of any acid during rubber coagulation for fear that traces of it might be left in the rubber even after washing. Whether the objection to the use of a volatile acid in coagulating rubber is really sound can only be decided by practical tests, but the objection does exist. But to avoid using any coagulant it is only practically possible where a mechanical treatment of the rubber by a washing machine is in use, and then it is a matter for consideration whether the use of acid, which has been extremely convenient in assisting coagulation, should be discontinued from fear that such use will produce a rubber that will not stand the test of time and which will perhaps injure in future the reputation of plantation rubber.

Before the introduction of the washing machine and the formation of crêpe rubber, drying had been a troublesome operation. Artificial heat had generally led to the softening of the rubber and often, through inefficient control of the temperature, caused it to become "tacky." Crêpe rubber dries easily and well if hung in a dark but airy shed, and the preparation of rubber in this form appeared to have solved the old difficulties in drying.

There have been suggestions in regard to vacuum drying on estates, and Mr. Burgess investigated the vacuum drying of washed rubber in certain British factories. He reports that rubber dried in this way is softened by the heating, which is objected to by some manufacturers, though by those who have adopted vacuum drying this is not regarded as important, chiefly because the cause of softening is known and it is regarded only as preliminary to the softening which occurs in the mastication which is the next step in rubber manufacture. But if plantation rubber were offered in soft and adhesive masses Mr. Burgess feels that serious objection would naturally be made. Taking into consideration the fact that plantation rubber is always inclined to be soft he would not recommend any form of drying in which artificial heat is necessary, and which involved the elaboration of machinery and increase in power in doing what, with washed rubber, can be done in a more simple, safe, and natural manner.

By all the manufacturers seen in Europe a lively interest was shown in plantation rubber and in the prospect of being able to obtain rubber of fine quality from the East. The immediate need is more quantity, and exaggerated views prevail of the amount to be expected in the near future from plantations. Manufacturers were not inclined to deal directly with the producer in small lots, the supply being too small and irregular to justify a departure from existing methods of buying, besides which plantation rubber requires different treatment in working. Unfortunately some of the

plantation rubber has shown the defect of softness and tackiness, and these samples have tended to injure the reputation of plantation rubber. Manufacturers were without decided opinions as to the form in which rubber is exported. As long as it is dry and clear enough to show the absence of impurities, the form of the rubber was considered relatively unimportant. Preference for the crêpe form was shown by some, and most were agreed that this was as good a condition of packing and exporting rubber as any.

There is one danger connected with the use of a washing machine on a plantation, says Mr. Burgess. By its means adulteration with inferior rubber, rubber substitutes, and recovered rubber could be carried out without possible detection by eye or hand inspection, although chemical analysis or practical use of the rubber would reveal the sophistication. In unprincipled and fraudulent hands such adulteration might be carried to a considerable pitch before detection occurred, and this possibility of misuse should not be lost sight of by those who are responsible for the purity of the rubber produced.

SMOKING PLANTATION RUBBER.

THE London rubber brokers, Lewis & Peat, who have from the beginning shown a special interest in the development of the market for plantation rubber, handling an important share of the Ceylon and Straits product, write at length in *The Times of Ceylon* in regard to the proper preparation of this rubber. Their attention has been called to some lots of biscuits apparently well cured, arriving in London in a heated and sticky condition, and the question has arisen as to whether the present mode of curing and the biscuit forms are the best. The firm regard this question of great importance, and they seek to impress upon planters the necessity of doing everything possible to establish plantation rubber on a sound basis as a competitor of the Brazilian smoke cured rubber, which "is still the standard and has maintained its character as the best up to this day, viz., for elasticity, strength, and durability for general purposes."

It is essential, they say, that plantation rubber should be so prepared and cured that it can be used for all sorts and purposes by manufacturers. At present, so far as they can ascertain, it is only used for solution and small special purposes, and is not strong enough nor suitable for waterproofing or tires and many other purposes that fine Pará is used for.

They have noticed sometimes cases arriving with the biscuits sticking together and in some cases actually more or less compacted in one heated mass. This they attributed formerly to want of proper curing and drying, but they have been impressed by a theory put forward in the trade "that Ceylon pancakes and Straits sheets are at present made too 'pure'; that is to say, too much moisture, etc., is taken out of the latex, with the result that the elasticity and strength

is reduced and that it will be found the rubber in this form will not keep, but will inevitably become soft and treacherous if stored for any time or subjected to pressure and a raised temperature."

The author of this theory believes that it is the extra moisture left in the fine Pará smoke cured that renders it fit and strong enough for all purposes and accounts for its not deteriorating. His argument is that Ceylon planters should smoke cure their rubber and make it into large balls as they do in Pará. He also suggests that there are plenty of nuts in Ceylon that when burnt will produce the thick heavy smoke containing the active principle, "creosote," which is the antiseptic which cures Pará rubber in Brazil. It is further suggested that while plantation rubber so cured might fetch less than the Ceylon biscuits and sheets do, the gain in weight in moisture left in the rubber would more than make up for the slightly lower price.

Lewis & Peat remark that they have seen Rangoon and Assam rubber nicely washed and cleaned in India, arrive in London "a mass of heat," and with it other rubber from the same source, prepared by the natives, containing earth and other impurities, but quite sound and free of heat, suggesting that the cleaning weakened and destroyed the fiber of the rubber and thus unfitted it to stand the heat of a ship's hold or variations of the temperature.

The Times of Ceylon, in reproducing Mr. Gordon Waldron's letter in THE INDIA RUBBER WORLD in regard to smoking *Castilloa* rubber in Nicaragua, mentions that Mr. Alexander C. Devitt, a member of Lewis & Peat, who has been visiting Ceylon, inclines to the belief that plantation rubber from *Hevea* may one day be treated by smoke instead of by the methods which usually obtain to-day.

CEYLON AND STRAITS PLANTING.

THE report presented at the yearly meeting of the Ceylon Tea Plantations Co., Limited (London, April 26)

mentioned 307,495 rubber trees on the estate, mostly among tea, though the company are now beginning to plant rubber extensively alone. During the year 5596 of the older trees yielded 3685 pounds of rubber, which brought an average of 5s. 11d. [= \$1.44]. Mr. H. K. Rutherford, the chairman, said, as far as he could make out, the prices at which rubber company shares stood, gave roughly an average value of about 10 shillings per tree, of all ages. If this company adopted 5s. as a basis, their rubber would be worth £75,000 as an asset.

The Times of Ceylon has been making inquiries in regard to the exports of plantation rubber from the Federated Malay States, and finds that the government has not completed the machinery for supplying exact figures, and it is a difficult matter for private enterprise, owing to the number of seaports from which rubber is shipped, besides which a certain amount crosses the border into adjacent provinces.



"HEVEA BRASILIENSIS."

Straits Settlements (Bertram) Rubber Co., Limited, has been floated in London, with £175,000 [= \$851,637.50] capital, to acquire and develop the valuable Bertram estate, in the province of Wellesley, Straits Settlements, on which the planting of Pará rubber has been begun, and which interest is intended to become the chief dependence of the new company. The directorate embraces members of the boards of several other rubber planting companies, and the chairman is Sir J. West Ridgeway, G. C. M. G., late governor of Ceylon. Secretary and offices: H. Read Smith, F. C. I. S., 16, St. Helens place, E. C., London.

At a meeting of the Sabaragamuwa (Ceylon) Planters Association on September 2 the following acreage of tea interplanted with rubber this season was reported: Rakwana district, 535; Balangoda, 110; Ratnapura 2361; total 3026. The new land opened for rubber this season in the same districts is reported at 2340 acres, and the estimated openings for next season 5300 acres.

COAGULATING RUBBER WITH "KOALATEX."

A FIRM of manufacturing chemists in Hamburg supply THE INDIA RUBBER WORLD with the following details with regard to a compound which they term "Koalatex":

"There exist several methods for the transformation of proto-rubber, which finds itself in each rubber milk, into rubber. Even the best rubber milks do not give good rubbers, if a bad method of preparation or a non practicable coagulator has been used. All rubber milks contain a bigger or smaller proportion of foreign substances, which, partly, may be easily removed. The most trouble is caused by the albuminoid matters which accompany the proto-rubber and, if not carefully removed, cause fermentation, overheating, and a bad smell of the rubber. In fact it is very difficult to remove quantitatively the albuminoid matters, even from *Hevea* rubber milk. Therefore it is necessary to use as coagulators only such chemicals as have a high disinfecting and preserving action. Liquid acids, as sulphuric, hydrochloric, and acetic acid are not practicable for use of plantations, which mostly do not have good communications, and the transportation of these liquid acids is very dangerous and costly. Besides, these acids have nearly not at all any disinfecting or preserving value, and they do not prevent the becoming black of some kinds of rubber, especially after drying. There exist some organic acids which have not only a good coagulating action, but also have the superiority of being efficacious disinfectors and preservators, but their prices are extremely high. Owing to the far seeing examinations and experiments of a highly prominent crude rubber expert, the rubber coagulation problem has been solved by the compound 'Koalatex', which is a good acting coagulator, gives light coloured rubbers, which remain light after being dried. Koalatex prevents must, is easily transportable and safe, and has a low price."

The firm referred to are Lehmann & Voss. It is understood that the price of the compound is about 20 cents per pound.

PLANTATION RUBBER FROM NICARAGUA.

THE Bluefields newspaper, *The American*, notes the shipment from that port, by Mr. John C. Horter, to the Horter Culture Co. (New Orleans), of a fine lot of cultivated rubber, from the "Daytonia" and "Tennessee" plantations. "This rubber," says the newspaper, "according to expert opinion,

is to be classed with the best which has been grown here and weighs 1½ tons. In conversation with Mr. Horter, that gentleman assured us that this is the largest quantity of cultivated rubber in one shipment which has, up to date, been despatched from any Spanish-American port to the United States." The shipment comprised 2500 pounds and was made by the steamer *Imperator*, on April 19.

BETTER CONDITIONS IN SUMATRA.

THE *Pinang Gazette* hears that the government of Netherlands India has decided to abolish the export duty on plantation rubber grown in Sumatra. This, it adds, is sure to further enhance the value of the rubber estates in Netherlands India. The real intention, however, is, says *The Times of Ceylon*, to encourage capital to come into the country; and when Mr. Kelway Bamber, of Ceylon, recently visited Sumatra, he found a marked improvement in the attitude of the authorities towards British investors.

TAPPING RUBBER IN MEXICO.

MEXICAN Plantation Association (Chicago, Illinois) advise THE INDIA RUBBER WORLD that they have on their plantation "Lumija," in the Mexican state of Chiapas, 75,000 rubber trees 6 years old. They will commence tapping this year, on an experimental scale. Their coffee is beginning to be productive, and they have been paying dividends from side crops, together with the profit from the plantation store.

"LA Esmalta" plantation, in Oaxaca, owned by the Binghamton Tropical Plantation Co. (Binghamton, New York), a company incorporated in 1902, contains some 1500 planted rubber trees which were standing on the property when purchased. The company report that last year 10 of these trees (from 7 to 10 years old) yielded under experimental tapping in January 11 pounds of dry rubber. This year in the same month the 10 trees yielded 17 pounds of rubber weighed immediately after coagulation, and weighing 15 pounds after 3 or 4 months. One tree, supposed to be 15 years old, is reported to have yielded 2½ pounds at a single bleeding.

MEXICAN PLANTATION COMPANY PUBLICATIONS.

OAXACA Rubber Co., New York.—Third Annual Inspector's Report. By George S. Delano and Caleb B. Leach. 8 pages.

Tehuantepec Rubber Culture Co., New York.—Plantation Rubio. Report of Official Inspector W. H. Hyde, 1905. 26 pages.

Chacamas Plantation Co., Chicago.—Report on Method of Rubber Planting on the Chacamas Plantation, State of Chiapas, Mexico. By Charles W. Rickard, plantation manager. 23 pages.

Wisconsin Rubber Co., Madison, Wisconsin.—Report of M. C. Fitzgerald, Second Inspector, Elected January 28, 1906. 24 pages.

The North American Rubber Culture Co., Kansas City, Missouri.—Annual Report of the General Manager, Printed April 1, 1905. 12 pages. Annual Report, 1906. 12 pages.

Conservative Rubber Production Co., San Francisco.—Report of G. R. Taylor, of Fresno, California, on the Property Owned by the Company. 16 pages.

Mexican Mutual Planters Co., Chicago.—La Junta; 5000 acres of Forest Jungle now a Cultivated Plantation. 36 pages + map. A Plantation; not a Prospect. 32 pages.

Batavia Co., Minneapolis, Minnesota.—Annual Report No. 3. Batavia Plantation. J. E. Rhodes, Inspector. 1906. 42 pages.

The Obispo Rubber Plantation Co., New York.—Fifth Annual Inspector's Report [by R. M. Johnson] on the Obispo Rubber Plantation and Financial Statement of the Republic Development Co., Contractors. 1906. [With a report on the Pittsburg-Obispo plantation.] 27 pages.

MR. HENRY A. REED AND HIS WORK.

AT a recent meeting of the directors of the Bishop Gutta-Percha Co. (New York), Mr. Henry A. Reed, who had been treasurer of the company since January, 1893, tendered his resignation, and his eldest son, William Boardman Reed, was elected to fill the vacancy. Mr. Reed continues as president and another son, Harry D. Reed, has been elected vice president. Mr. Reed is now in his seventy-eighth year. He has now completed his fifty-seventh year in the electrical interest, and his twenty-seventh year with the Bishop company. A sketch of the retiring treasurer would not be complete without going back a little into the history of the Gutta-percha industry, leading up to Mr. Reed's connection with it.

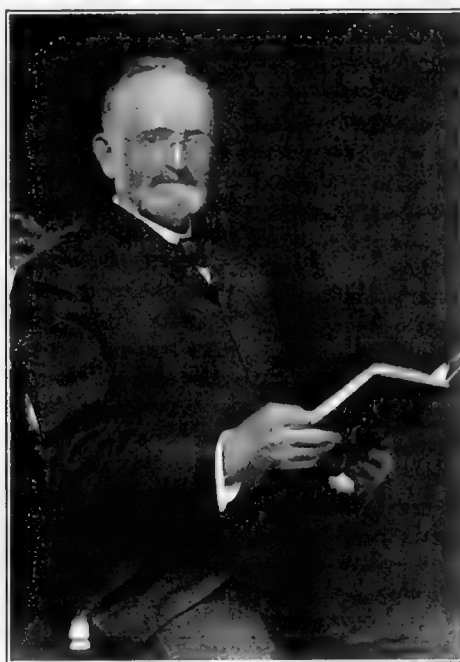
About 1845 Gutta-percha first became an article of commerce in England, it having been found to be particularly adapted for making water pipes and lining cisterns. It soon attracted the attention of Stephen T. Armstrong, who was a rubber manufacturer at Greenpoint (Long Island), New York, and in 1847 Mr. Armstrong went to England and purchased the patent rights for the United States. Gutta-percha pipe was then cheaper than lead, the market price being about 25 cents a pound, and its specific gravity only one-ninth that of lead, so it soon became widely used for many purposes for which lead had up to then been used, but chiefly as a material for water pipes and cistern linings. It had the advantage over other waterproofing materials in that it was anti-septic.

In the same year (1847) the Prussian government used Gutta-percha as an insulating material, this being its first use for that purpose. The Prussians laid 138½ miles of telegraphic cables insulated with Gutta-percha and covered with a thin shell of lead. The vulcanization of rubber having been successfully accomplished by Goodyear, it occurred to the Prussian government that Gutta-percha might be treated in the same manner. After a series of experiments the vulcanization was pronounced to be a success. But the process so shortened the life of the Gutta-percha that it was soon abandoned. On October 23, 1858, Samuel C. Bishop, a dealer in rubber goods in Cedar street, New York, bought Mr. Armstrong's business, including the patent rights. In 1861 he moved the factory to East Twenty-fifth street, to the present location of the Bishop Gutta-Percha Co., where he continued the business until his death, on July 4, 1872. Mr. William Willoughby Marks, a nephew of Mr. Armstrong, and who had been superintendent for Mr. Armstrong from the beginning, continued in that capacity and afterward took full charge for Mrs. Bishop, the widow, and continued to run it successfully until her death, in 1881.

Mr. Samuel Boardman, who was executor of Mrs. Bishop's estate, ran the business for the estate until July, 1885, when the present company was formed. The capital stock was divided among the legatees of Mrs. Bishop, with Mr. Boardman as president. The suit of Clinton G. Colgate *v.* the Western Union Telegraph Co. was being fought out in 1878, the plaintiff prosecuting on the ground that the defendant was infringing the Simpson patent for a Gutta-percha insulated cable, which patent had then come into the possession of Colgate.

It was at this time that Mr. Henry A. Reed came into contact with the Gutta-percha interest. He had learned telegraphy as a boy and had long been recognized as an authority in electrical and insulation matters. In 1856 he was the first in America to test for faults by galvanometer, using an instrument made by Henley, of London, and presented to Mr. Reed by Professor S. F. B. Morse. This instrument, by the way, is now in the Smithsonian Institution, at Washington, having a place alongside the Morse collection. The Colgate suit was decided adversely to the Western Union company, who were assessed damages amounting to \$100,000.

Mrs. Bishop feared she might be made defendant in suits brought by Colgate, and Mr. Reed was employed to gather evidence for the defense. He made a careful study of the history of insulation up to that time, and especially watched the progress of the case against the Western Union. But the suits feared by Mrs. Bishop never materialized. Mr. Reed advised her tacit acknowledgment of the validity of the Simpson patent. By doing this, and agreeing upon the payment



HENRY A. REED.

of a 5 per cent. royalty, Mr. Reed secured for Mrs. Bishop the exclusive rights to the patent during its life—a matter of a half dozen years or so.

Upon the organization of the Bishop Gutta-Percha Co., in July, 1885, Mr. Reed was made secretary. He continued his work as an expert until 1887, when he was made manager of the company. In 1893 he was elected treasurer and filled that position until he resigned in April of the present year. He was chosen president of the company in 1905, which position he still holds. The business of the company has outgrown the present factory, and in the near future an additional one will be erected. The new factory will adjoin the present one, and will cover a lot 50 × 100 feet in area and will stand five stories high.

Mr. Reed was born in Carmel, New York, on February 11, 1829. He was teaching school in his native village when he learned telegraphy. He soon became proficient and in 1849 was placed in charge of the telegraph office in Carmel. In March, 1850, he opened, at Croton Falls, the first office of

the Harlem railroad. From there he was sent to Hudson, New York, and afterward opened the offices in Valatie and Red Hook, both in New York state. In 1852 Mr. Reed was an operator in the New York office of the New York, Albany and Buffalo Telegraph Co. A year later he was placed in charge of the Poughkeepsie office of the company, which position he held until 1860.

When Fort Sumter was fired on, April 12, 1861, Mr. Reed received the news in his office in Poughkeepsie. By his side was Admiral Farragut, anxious and expectant. When Mr. Reed told Farragut the contents of the dispatch the admiral remarked, "That means that I must go to Norfolk at once. I have many friends there, but if duty requires, I will blow the city to h—l."

THE SIMPSON INSULATION PATENT.

IN connection with the preceding sketch of Mr. Reed, it may be of interest to say something more in regard to the Simpson patent for the insulation of electric wires with Gutta-percha. In 1849 George B. Simpson applied for a patent for the insulation of wires with glass beads, enclosing the same in an insoluble India-rubber or Gutta-percha case or tube. Finding this process impracticable, he applied for a patent on the use of Gutta-percha applied directly to the wire. This application was rejected by the United States commissioner of patents, on the ground that the use of Gutta-percha for that purpose was already known and had been practiced for some time. Simpson made repeated applications, changing his claims somewhat, but was each time refused. In 1860 he appealed from the decision of the patent office to the supreme court for the District of Columbia, which sustained the decision. Notwithstanding these repeated rejections, Simpson succeeded in getting a bill passed by Congress granting him a patent for 17 years (1867 to 1884), although the process covered had been in practical use for 20 years. In 1877 papers were served upon William Orton, then president of the Western Union Telegraph Co., and an injunction applied for, but the suit was not pressed at that time. On the death of Simpson, his nephew, Clinton G. Colgate, obtained control of the patent and began a new suit against the Western Union company, which was decided in his favor in December, 1878. Suit was then begun against Mrs. Sarah Bishop, the then owner of the Bishop Gutta-percha Co., for infringement of the patent in making the cables that had been used by the Western Union and other parties. This ended in an arrangement whereby Mrs. Bishop acknowledged the validity of the patent and was granted its exclusive use during the remaining years of its life, on the payment of a royalty.

GOOD RESULTS IN MEXICO.

THE INDIA RUBBER WORLD has seen a letter reporting a visit to the estate of La Zacualpa Rubber Plantation Co., in Mexico, from the manager of another plantation, who says: "The Zacualpa people last year harvested and prepared 15,000 pounds of rubber on their property. Their product was white, clean, and as pretty as could be desired. It was coagulated by the creaming process, which worked infallibly, quickly, and no difficulties were experienced, showing that large quantities of the milk can be handled without danger of complication or loss." It would appear that the energies of La Zacualpa management have been de-

voted chiefly to the production of rubber in the best shape possible, since this letter states that the manager has not kept a record of the rate of yield per tree, or kept the plantation rubber separate from the product of the wild trees on the estate. Mention is made of a tapping knife in use which gives "extraordinarily satisfactory results." The wound it makes is clean, uniform, of rounded shape, and quick and easy healing. Its efficacious gage prevents the incision from penetrating the wood of the tree, and the latex flows down the gash made without a drop running over the bark. The letter continues: "While at La Zacualpa we demonstrated beyond doubt that tapping from day to day is impossible on the *Castilloa*, that same can be tapped with favorable results every three or four months, that it is not practicable to tap during the dry season, the production being very small at such times, that the entire trunk of the tree and its large branches can be milked through tapings 2 feet apart without injury to the tree, and that the task of tapping and harvesting of rubber milk is destined to be easy and simple."

NEW PROCESS FOR GUAYULE.

THE invention of Antonio Villalba de la Corte, of San Luis Potosi, Mexico, covered by United States patent No. 814,675 (March 13, 1906), relates to the extraction of rubber from the Guayule or other like plants by a "process consisting in breaking the wood to be treated into suitable size, subjecting this material to successively finer dry grindings, and during the final grinding to pressure and heat." The apparatus described in the patent specification comprises a hopper for receiving the broken bits of wood, and a series of four grinding cylinders, through which the material successively passes. The final cylinder is provided with a steam jacket to raise the temperature of the ground wood, so that the rubber becomes soft or plastic, and readily agglomerates, and on leaving this cylinder "the wood has been so thoroughly ground that the agglomerated rubber is in a condition to be readily separated therefrom by hand, or the rubber may be cleaned or freed from impurities by suitable washing or cleaning devices."

* * *

THE *Mexican Herald* reports a movement to organize a company to develop the Guayule interest in western Texas, where the rubber shrub is said to be abundant. C. G. Woodruff, of New York, is mentioned as forming a syndicate to establish a Guayule factory at Del Rio, Texas, his interest having been enlisted by Judge J. G. Griner (connected with the Southern Pacific railway) and J. J. Foster, two citizens of Del Rio.

The *Mexican Herald* reports the purchase, by the Continental-Mexican Rubber Co.—the large concern in which several New York capitalists are reported to be interested—of a Mexican patent issued in 1901, covering a process for extracting rubber from Guayule and other plants. It is intimated that some other companies now at work will be proceeded against for infringement. The patent was purchased from Constancio de la Garza, Reuben Zertuche, and Miss Sue Greenleaf. The latter is reported to hold extensive interests in Guayule lands. "She is also the half owner of a rubber working machine patented in the United States and will soon go to New York to negotiate for its sale."

ENGLISH GOLF BALLS BARRED IN AMERICA.

IF you play golf with a ball made in England you are liable to arrest, says the *New York Sun*. Over there unless the lower court and chancery divisions are reversed on the appeal pending in the House of Lords, the rubber cored golf balls controlled by the patentee and his licensees in the United States may now be manufactured by any one. As a consequence, there is a flood of home manufactured rubber cored balls on sale in England, and some specimens have been brought to America by tourists, while other players have had a box or two as a gift from friends abroad. The American makers cannot prevent the balls coming here in these underhand ways, but they propose to get after the players who may use them.

Priority of invention is the point that the American patentee [meaning Haskell] has so far been unable to establish in the English courts. In this country all other makers of rubber core balls pay a royalty to the patentee's firm and should the House of Lords sustain the American patent, which the lower courts have not done, makers of rubber core balls the world over would have to pay a similar royalty. In England the manufacturers act as though they had already proved their contentions fully and the output is being sent into the home and colonial markets at a great pace. The retail price in England will average, according to the advertisements, \$5 a dozen. The American price will average \$6 a dozen, and, as in spite of the duty there might be a profit in sending the balls here, there is a special interest in having the English balls declared from the outset contraband of trade.

"We can't reach the makers or the underhand consignors of these balls made in contempt of the American patent," declared a leader in the New York trade, "but we can get after the individuals who openly play with them. We will stop by legal means, and very quickly, the golfer who openly uses an English golf ball, or any golf ball made in defiance of our rights on an American course."

The situation is very different from what it was when golf first attained popularity here in 1895. Then the golf balls were all imported from England, but there were no restrictions on the manufacture of the solid gutta-percha ball, and American firms soon jumped into the trade. By 1900, when the patentee first began selling broadcast the rubber core ball, the greater proportion of the solid balls used here were of American manufacture. Various sorts of rubber core balls followed the first on the market, until in 1903 the patentee brought suit against all other makers for infringement of his patents and cumulative damages. The two principal defendants confessed judgment, and since then all makers of golf balls having a core of wound rubber have paid a royalty.

In England the new American ball received a patent right in 1898, and although the firms and the professionals made a stand against it the fight was as futile as that of the old feather ball makers against the first solid gutta-percha balls. By 1901 the new ball had revolutionized the demand for golf balls in England, and the rubber core became the admitted ideal in such articles, so that all theories of playing the game, laying out courses and placing the hazards, based on a solid and slow ball, were also revolutionized. The English trade was naturally averse to conceding a monopoly to the American patentee and has waged a bitter fight in the law courts.

The combination of elasticity and inelasticity of the American patent has been the aim of many makers of golf balls in Scotland and England, according to the evidence brought forward, and Justice Buckley, in the chancery division, seemed to have been convinced that two of the Scottish inventors at least had forestalled the American patent in principle without making the ball a commercial or even a playing success. He decided that the lack of novelty in the American patent destroyed the claim to be granted an undisturbed possession of the right to make such balls.

What is supposed to have most influenced the Justice was that Captain Duncan Stewart, R. N., deposed that in the early '70s he made golf balls, sold them and gave them away, in the composition of which only rubber threads were used in the core, and that two professionals, George and William Fernie, stated that they had made similar rubber core balls and that a patent had been taken out for them, although they were never brought to the practicable point reached by the American balls. Justice Buckley's decision was made last July, and in March it was sustained by the court of appeals. These judges relied on Captain Stewart's testimony, not attaching much weight to the Fernie evidence.

Whether the rubber core golf balls now in this country from England are better or worse than those being made here has nothing to do with the attitude of the American makers. Whether the House of Lords sustains the English patent or not, they do not propose to let the English balls into this market without a litigation, and the golfer who is in possession of any such balls had better watch out unless he is yearning for a law suit.

"The course to be pursued," remarked a lawyer who is a golfer, "would be to serve an injunction on the player who is using the obnoxious ball. A temporary injunction might be asked for from the court, and unless the player demonstrated his legal right to use the ball the injunction would then be made a permanent one. There could be no arrest in the first instance but if the injunction were granted and subsequently violated there might be cause for a criminal action."

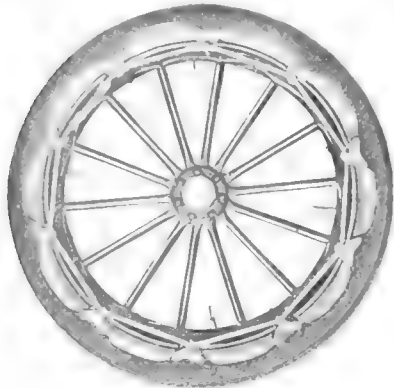
"It is good law, I believe, that an American patent must be protected from encroachments on the American market of articles made in violation of that patent in other countries. But in general law, to speak offhand on the point, it may not be easy to obtain a permanent injunction against a golfer who may prefer to use a golf ball made in England and which is not on sale in this country. The golfer may prove to the court that in England it has been decided it is lawful to make and vend the golf ball he is using. Law is largely a matter of precedents, and, on the principle of *res adjudicata*, an American Judge might follow the English court decision and refuse to enjoin the golfer from using the foreign made ball."

A permanent injunction against one player would become general in its application to similar cases, and, according to one golf goods dealer, should the American patent be beaten in the House of Lords, the way the English dealers will get their cause before the American courts will be in defending an injunction suit of the sort mentioned. They feel chipper over there, he says, on the question of priority of invention, and beginning with an injunction defence will push the case all the way up for a final verdict by the supreme court at Washington. Meanwhile should a friend get some of the English golf balls to you it would be wise not to proclaim the fact from the clubhouse roof.

NEW GOODS AND SPECIALTIES IN RUBBER.

"LIFE PRESERVER" TIRE TREADS.

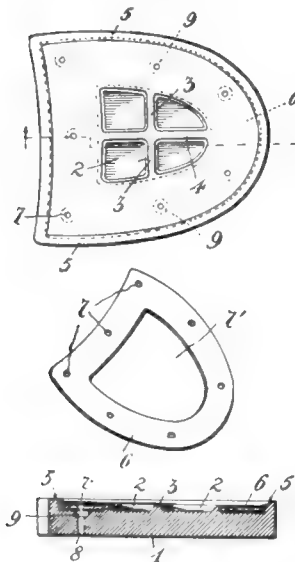
A DETACHABLE tire tread whose function is to preserve and increase the longevity of the tire is an Ohio product in that appears to have much merit. It is molded so as to conform to the shape of the tire, and is made of one piece of tough rubber reinforced by a



special weave of canvas. Slipped on over the deflated tire, it is firmly held in place by means of a steel cable which passes through a series of brass or nickel hooks attached to the edges of the protector. The cable is tightened with a turnbuckle and cannot work loose. It is claimed that this detachable tread is in-

destructible and skid proof, and that while it is in use a tire puncture is an impossibility. The protector would thus seem to be a, tly called the "Life Preserver." [The Pneumatic Tire Protector Co., Dayton, Ohio.]

RUBBER HEEL ATTACHED TO LEATHER.



THE accompanying sketches relate to a newly patented rubber heel, the foundation of which is a metal plate, which is coated with unvulcanized rubber and then vulcanized into the body of the heel. The flanged edge at the side of the heel secures a firm joint with the leather. The cavity in the middle of the heel is provided for the purpose of increasing its resilience. The cavity may be made with cross ribs, as shown in the uppermost drawing. The heel is patented by Charles Yahrus and F. A. Hammer, of Woonsocket, Rhode Island.

AN "AUTOMOBILE" SKATE.

INDICATIONS point to the return of the roller skate to a large measure of the popularity it enjoyed nearly a generation ago, when the larger cities were fairly peppered with rinks, and every small town had at least one of those centers of pleasure.



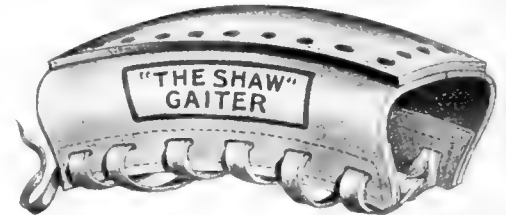
The fad was widespread and for a season held the country in its grasp. Its reign was brief, however, and in a remarkably short time roller skating became an almost for-

gotten pastime. In the present revival of roller skating rubber plays an important part; in fact the introduction of a new type of rubber wheeled skate may be said to be responsible for it. The newest roller skate is called an "automobile" or pneumatic. That is because two inflated rubber tired wheels, with ball bearings, take the place of the four solid wood wheels, of the old type of skate. As will be seen by the illustration, the body of the skate lies below the axles, thus doing away with the old time top-heaviness. The rubber tires are of two types—pneumatic and cushion. They are held in place by substantial inner lugs, which are a part of the tire itself, screws with nut fastenings passing through the lugs and clamping the steel spokes and tires in one solid wheel, which runs on steel ball bearings. The metal parts are polished and nicked. It is claimed for this skate that it overcomes the tendency to fall backward, and that both wheels are always on the floor. The skate has a length of from 10 to 12 inches, the varying length being obtained by means of a telescoping steel tubing which forms the main structure, or keel. The wheels also are variable, being from 4 to 5 inches in diameter. [Cycle Skate and Sporting Goods Co., New York.]

A PRACTICAL TIRE SHOE MENDER.

THE Shaw Gaiter is a device which seems bound to find a place in most automobile repair kits. There are strong reasons for this. First

and most important, is the fact that it does what is claimed for it—repairs tire punctures and



blow-outs quickly and effectually. Of course the mending is only temporary, but it answers the purpose for the time being and enables the stranded motorist to get home or to some shop where the damage may be repaired in a more lasting manner. The gaiter is of leather, with stout, securely fastened leather tread, and when adjusted completely envelops the tire for a space corresponding with its own length. It is secured to the rim with stout leather lacings. It is made in lengths varying from six to sixteen inches, and in sizes to fit any tire from the motorcycle to the largest automobile. [The Shaw Motor Tyre Tread Co., Birmingham, England.]

SOMETHING NEW IN OVERSHOES.

SOMETHING new in footwear is the Stazon, a rubber overshoe which is made on a last that has as its distinctive feature an exaggerated curve. The object of this peculiar shape is to prevent the annoyance which is so frequently caused when walking by the slipping of the ordinary overshoe. Furthermore, the Stazon is guaranteed not to come off until it is taken off. The style also commends itself to



the well dressed man or woman, its appearance certainly approaching the artistic. For men it is made in W. Royal, W. Oxford, F. Oxford, and W. New York, and for women, in F. Royal, F. New York, and F. Beauty. [The Merchants Rubber Co., Limited, Berlin, Canada.]

THE "SOMNOFORME" INHALER.

THE use of anesthetics, beginning in the latter part of the American civil war, has become one of the greatest blessings of the modern world. That it has been abused, there can be no doubt, and its victims are many. Death is so near, that an overdose means no awakening, and an underdose may mean a struggle ending in death. The Somnoforme Inhaler, a new device, is intended to regulate exactly the amount of gas to be administered to the patient. This Inhaler consists of a pneumatic rubber facepiece, covering mouth and nose, a celluloid cone, a lint chamber, and a rubber air bag, holding two gallons. The liquid Somnoforme is introduced into the



lint chamber in a hermetically sealed glass capsule, where it is broken. The air in the bag is inhaled through the saturated lint, sleep being produced in about a half minute. The air bag is readily reversible, which is a new and important feature. It can thus be more easily rendered aseptic, and it should be turned inside out for each operation. The bag is very soft, and can be wadded up until the whole inhaler will go into an ordinary coat pocket—a very considerable advantage. The bag which hangs from the metal part of the inhaler, and also the part which fits over the face, are both made of rubber. [E. de Trey & Sons, No. 28 South Fortieth street, Philadelphia.]

TO PRESERVE TIRE VALVE TUBING.

It has always been a difficult thing to prevent "heating," and consequent deterioration of rubber tubing for tire valves when kept in stock. A

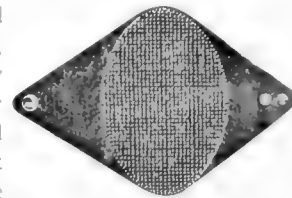


German house has devised a means for remedying this condition, so that the tubing may be kept indefinitely, with the certainty that it will be as good when taken from the package as it was when it was received at the store. This is accomplished by the use of a specially devised tin box, with perforated sides. The perforations permit the free circulation of air at all times, so that "heating" is only remotely possible. The manufacturers guarantee valve tubing packed in these boxes for one year. It will be understood, of course, that, owing to the difference in curing processes used, this device will not be everywhere equally

applicable. [Vereinigte Berlin-Frankfurter Gummiwaren-Fabriken, Berlin, Germany.]

CANTON BATH AND BEAUTY BRUSH.

THE brush shown in the illustration is made in one piece, and buttons over the hand, thus forming a "mitten." On this account they are as pliable and convenient as a cloth or sponge, and have the additional merit of being readily cleaned, and consequently are perfectly sanitary. They are sufficiently firm to do their work well, and yet flexible enough to prevent irritation of the skin. They are made of high grade materials and are not to be confused with cheap and inferior brushes. The bath brush is 6 × 6 inches, and is slightly stiffer than the beauty brush, which is 5 × 5 inches. [Canton Rubber Co., Canton, Ohio.]



SINK DRAIN MAT.

A RUBBER sink drain mat is one of the aids to dishwashing which has recently been devised, and it is proving eminently practical and satisfactory. Its superiority over the ordinary drain can be easily detected from various standpoints, but its special recommendation lies in the fact that its use removes the danger of chipped dishes—the house-



keepers' pet abomination. From a sanitary point of view it leaves little to be desired, a raised edge being so placed that the water cannot get beneath the mat, although the corrugated back provides air chambers that insure cleanliness. [C. W. Joslin, who is in charge of mat department of the Cleveland Rubber Works of the Mechanical Rubber Co., Cleveland, Ohio, is the inventor.]

A KNEADED RUBBER ERASER.

THE already almost endless variety of rubber erasers has been added to by the production of one that fills a field peculiar to itself. It is almost square in shape and is made of very soft, kneaded rubber. While this little device will perform all the offices of the ordinary pencil eraser, its special purpose is to erase unusually black and "soft" marks, such as those made with charcoal. This new eraser is known as the "No 1222," and is made by the firm of Eberhard Faber, No. 545 Pearl street, New York.



RECENT RUBBER PATENTS.

UNITED STATES OF AMERICA.

ISSUED MARCH 27, 1906.

- N**O 815,991. Hose coupling. W. B. Ward, assignor of one-half to W. C. Ferguson, both of Richmond, Ind.
- 815,995. Hose coupling. J. Williamson and H. O'Brien, Chicago.
- 816,006. Tire valve. C. E. Duryea, Reading, Pa.
- 816,013. Storm shield for vehicles. M. R. Hull, assignor to The Rex Buggy Co., Connersville, Ind.
- 816,029. Hose coupling. [For air brake hose.] J. F. McElroy, assignor to Consolidated Car Heating Co., both of Albany, N. Y.
- 816,106. Inflatable toy. C. A. Lindsay, New York city.
- 816,182. Tire armor. H. E. Prouty, Genoa, Ill.
- 816,225. Tire. [Cushion type.] C. W. Faitoute, Summit, N. J.
- 816,312. Hose coupling. E. E. Gold, New York city.
- 816,344. Fountain pen. W. N. Lancaster, Baltimore, Md.
- 816,345. Fountain pen filling device. R. G. Lockwood, Boston, assignor to Davidson Rubber Co.
- 816,354. Vehicle tire tool. C. McCarthy and M. M. Phenice, Columbus, Ohio.
- 816,503. Stopper for hot water bags. G. H. F. Schrader, Greenburg, N. Y., assignor to A. Schrader's Son, Inc., New York city.

Trade Marks.

- 11,569 Horseshoes and calks. The Neverslip Mfg. Co., New Brunswick, N. J. *Essential feature.*—The word NEVERSLIP.
- 15,383. Insulating tape. Massachusetts Chemical Co., Walpole, Mass. *Essential feature.*—The word DRYFIELD.

ISSUED APRIL 3, 1906.

- 816,583. Milking machine. D. Klein, West Chester, Pa., assignor of one third to Mary E. Bowman, Salem, Va.
- 816,596. Coupling for internally and externally armored hose. N. Perzoff, St. Petersburg, Russia.
- 816,604. Shower bath. C. C. Russell, Cleveland, Ohio.
- 816,656. Atomizer. I. Q. Gurnee, Butler, N. J., assignor to The American Hard Rubber Co.
- 816,703. Hose coupling. C. E. Bewley assignor of one-half to J. C. Bewley, both of Los Angeles, Cal.
- 816,761. Pneumatic horse collar. I. J. Thomsen, Minden, Neb.
- 816,856. Plug [for sinks, wash bowls, and the like]. M. W. Gartshore and J. H. Foster, assignor to Parish & Bingham Co., both of Cleveland, Ohio.
- 816,884. Detachable pneumatic tire. C. S. Scott, Cadiz, Ohio, assignor, by mesne assignments, to The Goodyear Tire and Rubber Co.
- 816,889. Flexible tire. A. V. Stichelen, Gand, Belgium.
- 816,924. Bath spray. A. N. Lattin, New York city, assignor to S. Sternau & Co.
- 817,019. Elastic woven fabric. H. T. Sykes, London, England.
- 817,020. Apparel pad [for the bosom]. H. W. Thompson, Pitman Grove, N. J.
- 817,054. Syringe. D. G. Gay, assignor of one half to James W. Lynd, both of Freewater, Oreg.
- 817,058. Coupling for armored hose. E. T. Greenfield, Monticello, N. Y.
- 817,059. Flexible tube. *Same.*
- 817,060. Hose. *Same.*
- 817,066. Pneumatic tire. S. Hunter, St. Louis.
- 817,075. Combined helmet and face protector. S. J. Lavis, Bowmanville, Canada.
- 817,079. Striped rubber tubing. J. L. Mahoney, assignor of one half to F. F. Schaffer, both of Naugatuck, Conn.

Trade Marks.

- 6,326. Nipples for nursing bottles. The Seamless Rubber Co., New Haven, Conn. *Essential feature.*—The letters A A A arranged side by side and inclosed by an oval band, at each end of which is a horizontal band, all inclosed within a diamond.
- 12,864. Dental rubber. The S. S. White Dental Mfg. Co., Philadelphia. *Essential feature.*—The word BOW-SPRING.
- 12,865. Gutta-percha tooth filling. *Same. Essential feature.*—The word PREMIUM.

- 12,866. Gutta-percha tooth filling. *Same. Essential feature.*—The word EXCELSIOR.
- 15,326. Rubber packing. Gibbens & Stream, New Orleans. *Essential feature.*—The letters A L L A.
- 15,933. Rubber water bottle, rubber fountain syringe bags, rubber ice caps, and rubber invalid rings. The Faultless Rubber Co., Akron, Ohio. *Essential feature.*—The word WEAREV R.
- 17,260. Fabric hose. Eureka Fire Hose Co., Jersey City, New Jersey. *Essential feature.*—Parallel longitudinal lines of red, white, and blue colors in the order named and produced upon a piece of woven fabric hose.
- 17,261. Fabric hose. *Same. Essential feature.*—Red, white, and blue lines running longitudinally upon the exterior of the hose, composed of two broken red lines formed by warps of that color incorporated in the fabric and one broken blue line formed in a similar way intermediate between the two red lines and separated therefrom by narrow intervals of the body fabric which form the white lines.

ISSUED APRIL 10, 1906.

- 817,208. Preserving apparatus. T. Widdop, Lonetree, Wyo.
- 817,231. Coin controlled atomizer. P. A. Dunn, Green Island, N. Y.
- 817,235. Spring wheel with pneumatic cushion. D. Farrand, Newark, N. J.
- 817,323. Horseshoe. G. W. Johnson, Chicago.
- 817,355. Rubber heel for boots and shoes. C. Yahraus and F. A. Hammer, Woonsocket, R. I.
- 817,560. Tire for vehicle wheels. J. L. Heward, Cardiff, England.
- 817,584. Detachable calk for rubber pad horseshoes. T. W. J. McGann, assignor of one-half to A. Collins, both of Washington, D. C.
- 817,668. Tire. J. C. Raymond, New York city.
- 817,703. Apparatus for moving invalids. Louisa Garaghty, Chester, Pa.

Trade Marks.

- 13,618. Carpet sweepers. The American Wringer Co., New York city. *Essential feature.*—The word ECLIPSE.
- 13,619. Wringing machines. *Same. Essential feature.*—The word NEW HOME.
- 13,625. Clothes wringers and the parts composing the same. *Same. Essential feature.*—The word VICTOR.
- 13,626. Clothes wringers and the parts composing the same. *Same. Essential feature.*—The word FALCON.
- 13,628. Clothes wringers and parts thereof. *Same. Essential feature.*—The word CRESCENT.
- 13,629. Clothes wringers and the parts composing the same. *Same. Essential feature.*—The word CONQUEROR.
- 13,630. Clothes wringers. *Same. Essential feature.*—The word MAGIC.
- 13,631. Clothes wringers. *Same. Essential feature.*—The word RELIEF.
- 13,632. Clothes wringers. *Same. Essential feature.*—The word BANNER.
- 13,634. Clothes wringers. *Same. Essential feature.*—The word RIVAL.
- 13,635. Clothes wringers. *Same. Essential feature.*—The word IMPERIAL.
- 13,636. Clothes wringers. *Same. Essential feature.*—The word LEADER.
- 13,637. Clothes wringers. *Same. Essential feature.*—The word GARLAND.
- 15,266. Packing for the wearing and bearing parts of machines and mechanical devices. Greene, Tweed & Co., New York city. *Essential feature.*—The word PALMETTO.

ISSUED APRIL 17, 1906.

- 817,787. Vehicle wheel [with rubber tire]. F. J. Lancaster, New York city.
- 817,818. Hose coupling or connector [in combination with a faucet]. J. J. Tredtin and F. H. Grosbernt, Dayton, Ohio.
- 817,838. Eraser. E. G. Dann, Chicago.
- 817,957. Vehicle tire. [Solid.] W. Christy, Akron, Ohio.
- 817,961. Dress shield. Emilie P. Davis, New York city.
- 817,977. Ice creeper [for wearing on a shoe]. O. F. Leibert, Bethlehem, Pa.

- 818,023. Rod packing. O. J. Garlock, Palmyra, N. Y.
 818,050. Playing ball [for golf and the like]. H. Ritchie, Peterboro, Canada.
 818,052. Fountain pen. W. R. Rothwell, West Philadelphia, assignor to E. M. Vasey, Philadelphia.
 818,173. Antislipping removable sole for shoes. J. M. Hoffman, assignor of one-half to J. F. Nelson both of Brooklyn, N. Y.
 818,184. Tire. [Cushion.] C. Miller, Binghamton, N. Y.
 818,198. Vehicle wheel [with rubber tire of sectional construction]. J. C. Schleicher, Mount Vernon, N. Y.
 818,321. Pneumatic mattress, cushion, &c. R. A. Whall, assignor of one-half to Metropolitan Air Goods Co., both of Reading, Mass.
 818,400. Vehicle tire. R. Wright, Cleveland, Ohio.

Trade Marks.

- 10,372. Insulated wire and adhesive tapes commonly used for insulating. New York Insulated Wire Co. *Essential feature.*—A raven perched within a border representing a coil of wire. A ribbon is held by the beak of the raven, together with the words RAVEN CORE WIRE.
 13,623. Clothes wringers. The American Wringer Co., New York city. *Essential feature.*—The word ELECTRIC.
 13,627. Wringers. *Same.* *Essential feature.*—The word STAR.

ISSUED APRIL 24, 1906.

- 818,402. Pneumatic tire plug. D. Apstein, Bridgeport, Conn.
 818,432. Rod packing. O. J. Garlock, Palmyra, N. Y.
 818,568. Tire for vehicles. E. B. Sims, Western, Neb.
 818,618. Massage apparatus. G. B. Fraley, assignor to The Electric Thermo-Vibra Co., both of Philadelphia.
 819,649. Pneumatic color applying apparatus. F. Wolf, New York city.
 818,771. Tire for wheels. H. Maerker, Wiesbaden, Germany.
 818,776. Sand blast apparatus. J. D. Murray, San Francisco
 818,814. Vaginal syringe. M. L. Bosworth, assignor of one half to E. J. Brownell, both of Bristol, R. I.
 818,842. Articulation of dolls. H. W. Meier, Baltimore, Md.
 818,863. Tire. I. S. Bowen, Lead, S. D.
 818,938. Sprinkler. C. A. Crane, Warren, Ohio.
 818,989. Swinging hose rack. R. D. Wirt, Philadelphia.
 818,990. Hose reel. R. D. Wirt and C. R. Parker, Philadelphia.
 819,016. Elastic tread horseshoe. A. W. Jones, St. Louis

Trade Marks.

- 3,663. Dress shields. I. B. Kleinert Rubber Co., New York city. *Essential feature.*—The word ONANDOFF.
 4,487. Piston rod and valve packing. The Garlock Packing Co., Palmyra, N. Y. *Essential feature.*—A diamond-shaped figure with the word GARLOCK inclosed therein.
 8,249. India-rubber or Gutta-percha tobacco pouches. Adolph Frankau & Co., Ltd., London, England. *Essential feature.*—The designation DIANA.
 15,012. Rubber packing, rubber gaskets, rubber disks, rubber rings, and rubber washers. A. B. Jenkins, New York city. *Essential feature.*—The arbitrary word JENKINS.
 15,018. Rubber packing, rubber gaskets rubber disks, rubber rings and rubber washers. *Same.* *Essential feature.*—The word JENKINS inclosed within a diamond space or border.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each, postpaid.]

GREAT BRITAIN AND IRELAND.**PATENT SPECIFICATIONS PUBLISHED.**

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1904.

* Denotes Patents for American Inventions.

[ABSTRACTED IN THE OFFICIAL JOURNAL, APRIL 4, 1906.]

- 27,065 (1904). Pneumatic tire. [To prevent puncture and slipping metallic studs are embedded in cushions of rubber fitted in recesses in the tread portion of the cover.] G. E. Heyl-Dia, London.
 27,086 (1904). Pneumatic tire. [To prevent bursting, puncturing and slipping the tire cover is vulcanized to a leather casing.] W. P. Thompson, Middlesex. (J. Albers, Aachen, Germany.)

- * 27,186 (1904). Percussive drill with flexible tube connection. H. H. Lake, Middlesex. (Ingersoll Sergeant Drill Co., New York.)
 27,190 (1904). Pneumatic tire. [The air tube is protected by a metallic band attached to the rim to retain the tube in position.] J. Russell, Newcastle-on-Tyne.
 27,345 (1904). Pneumatic tire. W. B. Hartridge, London.
 27,450 (1904). Exercising apparatus for the lungs. G. M. Thomson, London.
 27,463 (1904). Sole and heel protector. A. T. Woodhead, London.
 27,469 (1904). Elastic tire. [A series of curved plungers, fitted with rubber blocks, adapted to work against springs in curved guides on the rim.] T. Parker, Great Canfield, Essex.
 27,489 (1904). Heel protector. [A circular non-slipping protector consists of a brass casing dished to form a resilient support for three rings made of rubber.] J. G. Stidder, Kilburn, Middlesex.
 27,555 (1904). Patching strip for tire punctures. H. Guest, Sheffield.
 27,603 (1904). Vulcanizing apparatus for repairing tires. H. H. Frost, London.
 27,631 (1904). Pneumatic tire cover. P. Magnus, Victoria, Australia.
 * 27,722 (1904). Apparatus for separating gum from Guayule and other rubber plants. F. Ephraim, San Francisco, California.

[ABSTRACTED IN THE OFFICIAL JOURNAL, APRIL 11, 1906.]

- 27,745 (1904). Means for securing a rubber stopper to the neck of a bottle. J. Wernitz, Odessa, Russia
 27,823 (1904). Sole protector. [The resiliency of the sole is increased by fitting it with strips of rubber having semi circular projecting ribs.] O. Gross and E. Gross, Greenwich, Kent.
 27,934 (1904). Exercising apparatus. [A hand grip made of cork, having an elastic band fastened to their ends by means of metal mountings.] J. Wolffe, Maida Vale.
 27,947 (1904). Means for attaching rubber tires to rims. J. I. Mitchell, Glasgow.
 27,995 (1904). Means for attaching rubber tires to rims. G. C. Marks, London. (A Booker, Bruges, Belgium.)
 27,997 (1904). Tire. [Fabrics are woven with threads composed partly of asbestos, linen, cotton, and artificial hair. The fabric is used as a puncture preventing lining embedded into the rubber of the cover while it is in a plastic condition.] L. Azulay, Southwick, Sussex.
 28,026 (1904). Elastic tire. A. A. Gilles, Nogent sur Marne, France.
 28,051 (1904). Method of extracting rubber [from the Mexican shrub known as Guayule, by comminuting it and heating with an alkaline solution.] M. Marx, Heidelberg, Germany.
 28,053 (1904). Exercising apparatus. G. Müller, Berlin.
 28,158 (1904). Inflatable life belt. A. Gareis and E. Gareis, Vienna.
 * 28,219 (1904). Dental syringe. F. A. Higgins, Bellevue, Ohio.
 28,293 (1904). Toy. [Spinning tops are protected from damage by rings of rubber.] G. Philippart, Paris.
 28,294 (1904). Method of reclaiming rubber. L. T. Petersen, Akron, Ohio.
 * 28,314 (1904). Device for protecting pneumatic tires when out of use. F. E. Bowers, New Haven, Connecticut.
 * 28,315 (1904). Tire. [Outer covers of pneumatic tires, hose and other flexible pipes are constructed of layers of fabric arranged so that the layer with the greatest degree of elasticity is innermost.] A. H. Marks, Akron, Ohio.
 28,352 (1904). Puncture closing composition for tires. J. J. Collet, Paris.

[ABSTRACTED IN THE OFFICIAL JOURNAL, APRIL 11, 1906.]

- 28,503 (1904). Pneumatic tire. A. H. Bancroft, Church, Lancashire.
 * 28,579 (1904). Means for attaching pneumatic tire covers to rims. H. A. Palmer, Erie, Pennsylvania.
 28,648 (1904). Pneumatic tire. [A balata band of dovetailed section is secured in the groove in the tread.] J. McConechy, Glasgow.
 28,690 (1904). Pneumatic tire. [To prevent skidding a wedge shaped tread having a flexible neck is formed on the cover.] T. W. Maddox, Birmingham.

- 28,743 (1904). Hose coupling. A. E. Stove, London.
 28,743 A (1904). Hose coupling. *Same*.
 28,819 (1904). Respirator. W. J. Keymer, London. (R. G. C. Baldrey, Coimbatore, Madras, India.)
 *28,821 (1904). Elastic tire. J. R. Hill, Washington, D. C.
 28,854 (1904). Cover for pneumatic tire [made by winding a strip of rubber fabric helically around two rings]. H. W. Cave² Browne, London.
 28,872 (1904). Pump for inflating tires. G. Hagendorf, Brandenburg, Prussia.
 28,982 (1904). Means for attaching rubber heels to boots. R. W. Barker, London. (J. Grün, Budapest, Hungary.)
 29,030 (1904). Finger stall [for protecting the finger in writing]. C. W. T. Davies, West Ealing, Middlesex.

[ABSTRACTED IN THE OFFICIAL JOURNAL, APRIL 25, 1906.]

- 29,080 (1904). Pneumatic tire. R. Dalmer, London.
 29,107 (1904). Telephonic apparatus for diving purposes. R. H. Davis, and A. Graham, Surrey.
 29,114 (1904). Diving apparatus. H. H. Lake, Middlesex. (G. Restucci, Naples, Italy.)
 *29,154 (1904). Medical appliance having a flexible blub. F. Hoffman, New York.
 *29,155 (1904). Pneumatic tire [with a central core of fabric interposed between layers of rubber]. P. W. Litchfield, Akron, Ohio.
 29,192 (1904). Collapsible bath. A. Grosbois, Paris.
 *29,286 (1904). Pneumatic tire. O. Imray, London. (H. A. Palmer, Erie, Pennsylvania.)
 *29,396 (1904). Golf ball [covered by winding a Gutta-percha strip around the core, the object being to produce a cover without a seam]. H. H. Lake, Middlesex. (Perfect Golf Ball Co., New York.)
 29,523 (1904). Elastic tire. J. Wilson, West Croydon, Surrey.
 29,580 (1904). Method cleaning hose pipes. Boake, Roberts & Co., Stratford, and A. Berry, Forest Gate, Essex.
 29,614 (1904). Nozzle [for connecting a rubber hose to a tap]. W. J. George, Birmingham.
 29,640 (1904). Tire tread of leather. T. Mitchell, Bingley, Yorkshire.

THE FRENCH REPUBLIC.

PATENTS ISSUED (WITH DATES OF APPLICATION.)

- 358,361 (Oct. 9, 1905). O. Patin. Elastic core for cushion tires.
 358,367 (Oct. 9). Gregaud. Skid tread.
 358,436 (Oct. 11). E. Sloper. Improvements in pneumatic tires.
 358,471 (Oct. 13). P. Baranton. Pneumatic tire filled with system of multiple air tubes.
 358,493 (Oct. 4). A. F. Michot. Metallic pneumatic tire.
 358,516 (Oct. 14). Fleming & Co. Patch buttons for tire tubes.
 358,524 (Oct. 14). Granjon & Berchet. Skid treads.
 358,609 (Oct. 17). Walker & Jacobson. Shock absorber.
 358,635 (Oct. 18). Körner. Rubber reclaiming.
 358,639 (Oct. 18). Caen. Spring wheel.
 358,697 (Oct. 20). J. B. Robinson. Vulcanizing together the ends of inner tubes.
 358,717 (Oct. 23). Société Mouilbau, Fayand & Co. Improvements in strap making.
 358,789 (Oct. 24). Sanlay. Spring wheel.
 358,812 (Oct. 24). J. C. Bunge. Tire protector.
 358,824 (Oct. 25). Société des usines Rousselot & Videcoq réunies. Skid tread.
 358,963 (Oct. 28). Chaboche. Anti-skid wheel.
 358,978 (Oct. 30). E. Midgley. Elastic tire.
 358,996 (Oct. 26). J. Lelong. Punctureproof tread.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Bobet, Ingenieur-Counsel, 16 avenue de Villiers, Paris, at 50 cents each, postpaid.]

EDITORIAL AMENITIES IN VERMONT.—Addison county automobilists can get their tires pumped full of hot air free of charge by stopping at *The Register* office in Middlebury.—*St. Albans Messenger*.

A CARD FROM MR. HEYL-DIA.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I note in your last issue a reference to my synthetic rubber, which contains remarks made by someone in England. I should like to state once and for all that the rubber made according to my process and master patent represents the production of chemically constituted rubber from substances which are hydrocarbons.

The materials used contain, of course, a very considerable quantity of hydrocarbons, which I have been able to convert into rubber at the present time, and which is the cause of the synthetic or "Yucutan" rubber—as I have called it—ranging as to its commercial value with Borneo No. 1, or other crude rubbers of the value of 95 cents, present market prices, washed and cleaned.

Your correspondent's statement that Pará rubber is produced at a shilling a pound is not expressed by the present market price of Pará, nor is it expressed by the market price of other rubbers not coming from Pará. If your correspondent would be kind enough to furnish me with a million tons of Pará at a shilling a pound, I am sure that I could dispose of this quantity at a very handsome profit.

Against Gutta-percha as a mixture, my material is entirely based upon chemical action, and I make the statement, without fear of contradiction, that it is impossible by any known chemical means to reconstruct the materials used in the production of "Yucutan" rubber. I should be glad if you will publish this in reply to your correspondent's remarks, and remain, Yours faithfully.

G. E. HEYL DIA, Consulting Expert.

New York, May 5, 1906.

RUBBER DOORS FOR GAMBLING HOUSES.

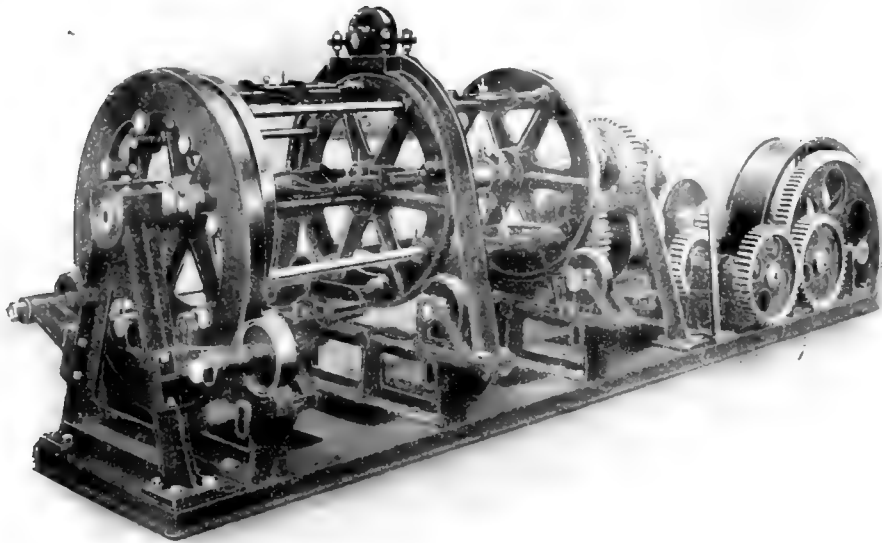
THE police of New York are accustomed to trouble in entering gambling houses, "pool rooms," and the like, through having to break down heavy doors of wood and iron. According to the *New York World*, the lot of the policeman has been rendered harder through the addition to such doors of a 4 inch thickness of solid rubber, so that when the police axes and sledge hammers strike the door they rebound.

"I was knocked clean off my feet the first time I struck one of the rubber doors," said a detective. "The force of my blow striking the sheet iron, wood, and rubber drove me back at least five feet."

These peculiar doors cost sometimes as high as \$100, but the pool room owners say that they save money even if they hold back the police raiders for 5 minutes. It gives time to destroy racing sheets and other dangerous evidence. The sheet iron and wood doors are strong enough to keep the police sledge hammers at work for 5 or 8 minutes, and the rubber doors are counted upon to make a delay of 12 to 15 minutes.

The business of constructing heavy doors for the uses mentioned above is reported to have been carried on for 20 years by "Old Jack" Woods, of the Bowery, his only recognized rival being Sing Gow, who does similar work for the Chinatown gambling dens.

THE LATEST DEFINITION.—A man with an elastic step may call himself a rubber planter.—*Mexican Herald*.



EIGHT SPOOL WIRE STRANDER.

AN EIGHT SPOOL WIRE STRANDER.

THE necessity for a thoroughly reliable eight wire stranding machine for cable building that is strongly and compactly built, has been met. This new machine is the result of many years of experience and experimenting by men who knew what they were after and how to get it. It is built in two bays, with four spools to the bay. By an ingenious arrangement the cradles are connected at the rear to an electric ring which gives back motion to the spools, at the same time preventing the wires from getting twisted. The cradles are made of high grade steel castings and fitted into bushed bearings formed in the spiders. Three spiders run on rollers, while the center spider is also provided with an upper roll, a contrivance that is valuable in giving rigidity to the machine when running at high speed and out of balance. The machine has cut gears throughout. The capstan wheel has a diameter of 48 inches, with an eight face. The machine is furnished for belt or motor drive and can be run right or left at will, at high speed. It is especially recommended where a large output of high grade strand is desired. [Aiton Machine Co., New York city and Harrison, N. J.]

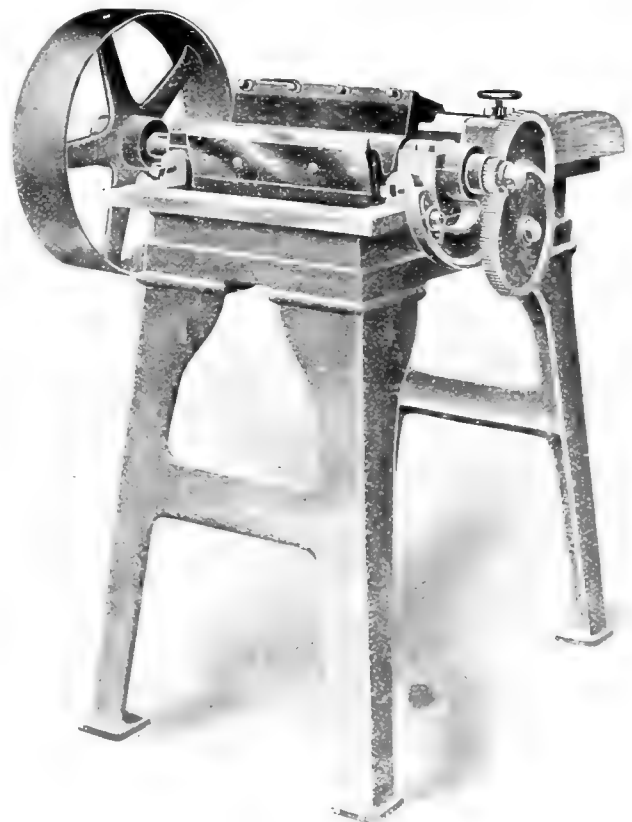
ADAMSON'S BAND CUTTING MACHINE.

THE machine illustrated herewith is adjustable for any kind of work, from the shortest to the longest rubber bands. The cutting is done by means of a band knife and three other knives on a cylinder. The cylinder is revolved at a high speed by means of a pulley belted direct to the counter shaft. The mechanism is simple, being operated by means of gears, and all standard widths and lengths of bands can be cut on this machine. The cylinder makes up to 300 revolutions per minute, and, having three knives, the work of the machine for any width or length of band is about 900 per minute. The machine weighs approximately 600 pounds. It is in use by a number of manufacturers of rubber bands and has given general satisfaction. [A. Adamson, Akron, Ohio.]

PLANTING "CEARA."

WITHOUT indicating its authority, *The South American Journal* (London, April 21) makes the following statement regarding the cultivation of *Manihot Glazio, ii*: "The cultivation of India-rubber plants in the state of São Paulo is reported to have undergone a complete change, as a result of the arrival in the country of a Portuguese from Ceará, a year ago. About eight years ago the growing of maniçoba plants for the collection of rubber was inaugurated, but the results were not financially successful, and thousands of 5 and 6 year old maniçoba trees were cut down. The advent of the Portuguese led, however, to the discovery that the

trees had not been tapped at the proper time, but that if drawn at the appropriate period the yield of juice from a 6 year old tree produces 50 per cent. of pure rubber. As a consequence, the cultivation of the maniçoba plant has been resumed, and it is estimated that 5000 acres of land are now planted in this manner, and that the production of rubber will increase every year, owing to the great annual yield from each tree and the more skillful method of collection."



ADAMSON'S BAND CUTTING MACHINE.

RUBBER INTERESTS IN EUROPE.

THE CONTINENTAL COMPANY'S EMPLOYEES.

DURING the latter part of April Herr Director Adolf Prinzhorn, of the Continental-Caoutchouc- and Guttapercha Co. (Hanover, Germany), invited the company's employes to meet him one noon, and gave them a strong talk. He began by enumerating and giving the amounts of the various company funds for the support of sick workmen and the widows and orphans of former workmen, and stated that the board of directors intended to increase these still further. He said that 160,000 marks were now set apart for the support of widows and orphans, which would allow each widow 200 marks a year. The total sum paid out to or for the workmen, on account of sickness, injuries, life insurance premiums, etc., had amounted to 1,052,093 marks within the last five years. At the end of each jubilee period (25 years) each employé receives 300 marks.

Director Prinzhorn then went on to say that the workmen were not regarded as so many people on the pay roll, but that the managers took a personal interest in them, and had their interests at heart. He deplored the strike attempted early in March, which might have caused great suffering to thousands of families; for the company were determined to shut down the works, rather than yield to the strikers. He declared, moreover, that the company would always refuse to have any dealings with their employes through outside mediators. Within a year, however, he said that the workmen would be invited to attend a meeting for the purpose of discussing the general management of the company, where misunderstandings would be cleared up, though the management would strongly disapprove of the workmen conversing with newspaper reporters on these matters. With nearly 4,000 employes in the works, the management recognized that mistakes and misunderstandings would sometimes arise; and they would be grateful to any workmen who should tell them when anything went wrong anywhere.

THE BRITISH RUBBER MANUFACTURERS.

THE annual report of the India Rubber Manufacturers' Association for the year ending December 31, 1905, which has been printed, shows that the conference to which manufacturers in other countries were invited for the purpose of discussing difficulties experienced in connection with the supply of crude rubber, failed to be held in London in October, although favorable responses had been received from the United States, Canada, Germany, Russia, and Italy. "It was found impossible to hold a conference in October," says the report, "owing to unforeseen circumstances which delayed the attendance of Mr. Ivins, the president of the General Rubber Co., of New York. It is felt very essential that Mr. Ivins, representing the largest purchasers of rubber in the world, should be present at any conference held." It is not mentioned, by the way, whether further steps toward such conference will be held. The association was addressed during the year by Mr. P. J. Burgess, of the Federated Malay States, whose visit to England in the rubber interest is mentioned elsewhere in this issue. In May, 1905, a resolution was passed committing the members to the issue of advanced lists on mechanical goods. During the year the members manufacturing cycle tires held meetings with the result of agreeing upon guarantees and some other matters. As a result of discussion within the association, The Rubber Trade

Mutual Insurance Co., Limited, was established, with good prospects. The membership now embraces 22 rubber manufacturing companies. The officers elected for this year are:

Chairman.—OSWALD G. MOSELEY.

Vice Chairman.—J. E. HOPKINSON.

General Committee.—R. K. BIRLEY, R. ECCLES, F. W. INGRAM, W. H. HENDERSON, PHILIP H. LOCKHART, G. C. MANDLEBERG, F. PEGLER, JAMES TINTO.

Treasurer.—JAMES E. BAXTER.

Secretary.—F. B. KNOTT, Manchester.

AUSTRIA.

PRICES are higher in Austria on elastic webbing goods such as garters, hose supporters, and the like, due to the continued high cost of rubber and cotton, though it is claimed that manufacturers have not succeeded yet in securing prices commensurate with the increase over the former cost of materials. Opposition to the new prices is reported to come from the wholesalers rather than from dealers and consumers. *Gummi- und Asbest-Zeitung* (Vienna) suggests an agreement among the rubber manufacturers for the purpose of making the advance on goods of this class uniform—a condition which does not now exist.

TURKEY.

In a report by the commercial expert attached to the German consulate at Constantinople, it is stated that Russian rubber shoes have almost crowded out of the Constantinople market the American article. Inquiries in proper quarters go to show that some mistake has been made, as the sale of American rubbers was never so brisk in Constantinople as now, and much more trade could be done if more credit was given. The German rubbers are also selling well.—*The India-Rubber Journal*.

GERMANY.

FRANKFURTER Gummiwaren-Fabrik Carl Stöckicht A.-G. [See THE INDIA RUBBER WORLD, December 1, 1905—page 78] has declared a dividend of 5 per cent. on the business of 1905. The capital stock is to be increased from 1,500,000 marks to 2,100,000 marks [= \$499,800], the new issue being taken by a syndicate at 103.

GREAT BRITAIN.

THE golf ball manufacture carried on hitherto by Hutchison, Main & Co., at the Springvale works, Cowlares, Glasgow, Scotland, has been transferred to Hutchison, Main & Co., Limited, registered at Edinburgh in April, with a capital of £100,000 [= \$486,650]. The public was not asked to subscribe. This is the company against which an unsuccessful action was brought lately by the patentees of the Haskell ball.

Johnson & Phillips, Limited, Old Charlton, Kent, have been elected members of the Cable Makers' Association, and their standard wire will in future bear the official labels authorized by the association. The company report that the cable gear and equipment which they supplied for a new cable steamer now under construction in Japan for the government of that empire has been successfully installed.

—The Rubber Co. of Scotland, Limited, at Stirling, are mentioned as having made a rubber conveyor belt 20 inches wide and over 1100 feet in length, for use in conveying gold ore in a South African mine.

—W. T. Henley's Telegraph Works Co., Limited, recently laid a 20-pair telephone cable across the Tagus river, in Portugal, for the Anglo-Portuguese Telephone Co.

TRADE OF AKRON AND VICINITY.

BY A RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Percy Ewart, a director of the Ohio State Fair, is making an effort to interest Akron rubber manufacturers in exhibiting at the fair this fall. Mr. Ewart is an Akron man and is anxious to have the Akron rubber industries represented at the fair, as a means to advertising the city. Some of the larger rubber companies are entertaining the proposition, and if it is decided to exhibit, rubber mills will be shipped to Columbus, and an exhibition will be given of the manufacturing processes.

"Wanted, experienced rubber mill men" is an announcement printed in all of the local newspapers in Akron and its vicinity. All the rubber companies here are seeking additional help. The larger companies are experiencing the greatest difficulty in securing the proper amount of help to turn out the large orders which are on hand and which have been greatly enhanced by reason of the San Francisco disaster, in which some of the companies have lost their entire stock. Not only is this demand manifest in Akron, but rubber factories throughout the country are seeking help in Akron by inserting advertisements in the Akron papers. Efforts of the outside factories, however, have been futile, as all available help is being taken up by the Akron plants, which are hiring every person offering, with any experience at all in the rubber business.

The various rubber factories of Akron will be visited on June 6 by 100 merchants and manufacturers of Pittsburgh, who will spend the day going through the various plants. This is the sixth annual trade excursion made to Akron under the auspices of the Merchants' and Manufacturers' Association of Pittsburgh, and these excursions mean considerable to the rubber trade of the city, as many of the excursionists are big customers of the Akron rubber companies.

President H. B. Camp, of the Faultless Rubber Co., has made the statement that there is a possibility of the Ashland branch factory being abandoned and the machinery and the manufacturing done there transferred to the main plant in Akron. This has been under consideration for some time. One reason has been the failure of the Ashland council to open a street leading to the plant of the Faultless company, which is installed in a building erected for the operation of the Pneumatic Horse Collar Co., a concern which failed. The Ashland council recently took steps looking to the opening of the desired street, but not until considerable criticism had been heard from citizens, in view of Mr. Camp's announcement, above quoted.

Some time ago announcement was made that \$2000 had been donated by a prominent business man of Akron to the Sunday School class of L. C. Miles, general manager of the American Cereal Mills, of Akron, to pay the expenses to Washington city and return of the entire class. The class numbers 58 persons, and on May 8 the party left Akron on a special train for the National capitol and returned on May 12. The class was entertained in Washington by United States Senator Charles Dick, of Akron, who introduced all of the members of the party to the President. The name of the donor was at first a secret, but it now appears to have been Colonel George T. Perkins, president of The B. F. Goodrich Co.

Since the opening of the new plant of the Aladdin Rubber Co., at Barberton, there have been several thefts of rubber scrap from their premises. The police arrested three children aged 9, 11, and 16 years, who after their arrest, admitted that they carried off about 1200 pounds of rubber, which they sold to junk dealers for \$3 per hundred pounds. The children were committed to the reformatory.

From the annual report of the Akron city hospital for the year ending May 1, The B. F. Goodrich Co. are named among the principal donors to the hospital. During the year this company donated 32 dozen pairs of surgeons' gloves, 125 yards of rubber sheeting, and a dozen other important items of rubber supplies.

After a three months' automobile tour of Europe, Mr. Bertram G. Work, vice president of The B. F. Goodrich Co., and party returned to Akron on May 15. The party, which comprised Mr. and Mrs. Work and two others, left Akron three months ago, with a large touring car. They visited many points of interest in France, Italy, Germany, and England.

The Buckeye Rubber Co. are about to start building a big addition to their plant in East Akron. The new addition is to be connected to the main plant by sheds which will be used for storing lumber. During the past year this factory has undergone many improvements and the company are continually adding to their facilities for manufacturing.

The B. F. Goodrich Co. have been brought into a new prominence, now that several manufacturing cities in the vicinity of Akron are fighting the smoke nuisance. Edward J. Lander, a constructing engineer of Canton, Ohio, who has a wide reputation in his profession, has sent out a letter to city councils where smoke nuisance ordinances are being considered, in which he calls attention to the smoke stacks at the plant of The B. F. Goodrich Co., one of the largest factories in Ohio, as an example of smoke restriction. He declares that if officials and manufacturers are sufficiently interested to really desire to abate the smoke nuisance, observations of the various smoke stacks at the Goodrich plant "and a tracing to the source of the stacks that are alive and issuing the least smoke, will be pregnant with the information desired."

The suit brought some time ago in the local common pleas court by the Louisville (Ohio) Deposit Bank Co., against the Rubber Speciality Co., of Akron, resulted a judgment in favor of the bank for \$1,161.24, alleged to due the plaintiff on a promissory note given by the defendant company several years ago.

Mr. John F. Singleton has been appointed advertising manager of the Firestone Tire and Rubber Co. Mr. Singleton has been the representative in this vicinity of the mercantile agency of R. G. Dun & Co. for a number of years.

The Pan American Crude Rubber Co., of Akron, was incorporated under the laws of Ohio, early in May, with a capital named of \$10,000, which later was increased to \$500,000. The incorporators are George G. Allen, E. A. Oviatt, F. H. Waters, Harry E. Andress, and F. E. Whittemore. All are Akron lawyers, except Mr. Oviatt, who is identified with the Standard Table Oil Cloth Co. Mr. Allen is one of the officers of the Faultless Rubber Co. The incorporators have not given out any statement of their plans further than the company expect to cultivate rubber trees and place the crude product on the market.

The Wright Rubber Manufacturing Co. have purchased a large piece of property in Mansfield, on which they will locate their plant. The plans for the new factory are now being prepared and as soon as they are finished work will be started on its erection.

The Alling Rubber Stamp Co., of Akron, in response to the appeals for aid sent out from San Francisco, wrote to Mayor Kemple offering to replace at cost of production all rubber stamp goods lost in the San Francisco disaster.

The Mitzel Rubber Co., of Akron, which has its factory located at Carrolton, Ohio, is preparing to build extensive additions to its plant this summer. At present the company's plant is taxed to its capacity, and the steady growth of its product has demanded more room. The new additions will be erected upon the three acre tract of land owned by the company adjoining its plant. With the advent of spring the company has been obliged to work at night to turn out its products such as gloves, druggists' sundries, and water bottles.

Mr. Joseph Dangel, of the American Hard Rubber Co., has tendered his resignation as councilman in Akron, owing to not having time to attend to the duties of the position. Mr. Dangel has served four years in the council.

The warning sent out to all cities in Ohio by the state fire marshal, to the effect that cities must pass ordinances prohibiting the use of rubber hose for gas connections where natural gas is used, has caused a decided slump in the demand for rubber hose or tubing. Inspections are necessary by gas companies to see that consumers are not using rubber tubing in connecting gas stoves.

Charles S. Scott, of Cadiz, Ohio, inventor of a detachable pneumatic tire for which a patent was recently granted, has assigned his patent rights to the Goodyear Tire and Rubber Co., who have begun the manufacture of the new tire.

C. C. Shults has been appointed general manager and superintendent of the Alden Rubber Co., at Barberton. Reports from this company are most encouraging.

The plant in Barberton of the Pure Gum Specialty Co., which has merged with the Alden Rubber Co., is now occupied by a branch of the International Harvester Co. in the manufacture of small farm implements.

THE NEW JERSEY RUBBER INDUSTRY.

BY A RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The case of Colton Fulton, against the Grieb Rubber Co., of Trenton, in which three verdicts have been rendered, is again before the courts of New Jersey, a writ of error having been granted which will carry it to the court of errors and appeals for the June term. The litigation has been pending over four years, and the suit is looked upon as one of the famous ones in Mercer county. Fulton was an employé of the Grieb company, and on September 22, 1899, lost both hands in a mixing machine while at work. He claimed that he was shocked by an electric light wire, causing him to fall against the machine, with the result stated. Fulton brought suit against the company for \$25,000. In January, 1902, he was awarded a verdict of \$6500, which the supreme court set aside upon the ground that the weight of evidence was against the plaintiff's version of how the accident happened. A new trial was ordered, and in January, 1904, a jury in

Mercer court rendered another verdict for Fulton, for \$6800. The Grieb company secured a rule to show cause why a new trial should not be granted. The third trial also resulted in a verdict for Fulton, which the supreme court reversed. Now the writ of error has been secured by counsel for Fulton, carrying this decision to the court of last resort for re-argument. The only point upon which the supreme court set aside the last verdict was that the electric plant had only been installed in the Grieb mill three months, therefore the company was not bound to show that the electric wire in question had been inspected. This was a question of law. On all questions of fact the verdict for Fulton was sustained. The particular point referred to will be contested by Fulton's counsel.

Mr. Allan Magowan, of the Modern Rubber Manufacturing Co., who has been ill for the past five months, is now about again, though not able yet to resume control of his business. The factory, under the management of a son, has been running at full capacity.

The Asbury Park fire commissioners have placed an order for 500 feet of fire hose with the Eureka Fire Hose Co. and 1000 feet with Woodhouse & Co., a New York jobbing firm.

C. Edward Murray, head of the Crescent Belting and Packing Co., accompanied by Mrs. Murray, has recently been on a month's tour through the West, visiting Chicago, Denver, Colorado Springs, San Francisco, and other points. Governor Stokes granted Mr. Murray a month's leave of absence from his duties as quartermaster general of the state.

The new addition to the plant of the Whitehead Brothers Rubber Co. is about completed. The increase of business in the hose and belting lines made more room necessary, and a new brick building, 55 × 50 feet, two stories, was erected. With the added facilities the company now have a hose room 200 × 50 feet. In the belting department a new Farrell press 50" × 26' has been set up, and a new hydraulic pump installed. The fire fighting appliances throughout the factory have been given a complete overhauling, and new sprinkler heads been put in both the old and the new buildings. The plant also has a fire pump with a capacity of 1000 gallons per minute. Beside these improvements, one new building for storing materials and stock has been erected and two more are contemplated.

The Trenton Rubber Reclaiming Co., the name under which Mr. Newman London has started Trenton's latest rubber industry, began operations during the past month. This concern occupies the building formerly used by the Trenton Athletic Club. The alterations are not completed yet, but the engine and grinders have been installed and the work of reclaiming by the acid process has been started. Several carloads of scrap rubber and a car of acid are on the grounds and the work is being rushed. In addition to the building already purchased, two lots on Olden avenue, 30 × 100 feet, have been secured and will be utilized for storage purposes at present.

The Trenton *Daily True American* of May 5 embraced a large Industrial supplement, devoted to the leading manufacturing establishments of this thriving city, in which special prominence was given to the rubber industry, which is estimated to have increased in volume by 25 per cent. during the past five years. The Home Rubber Co. and the Joseph Stokes Rubber Co. are each the subject of a special article.

NEWS OF THE AMERICAN RUBBER TRADE.

LOWER FREIGHT RATES ON TIRES.

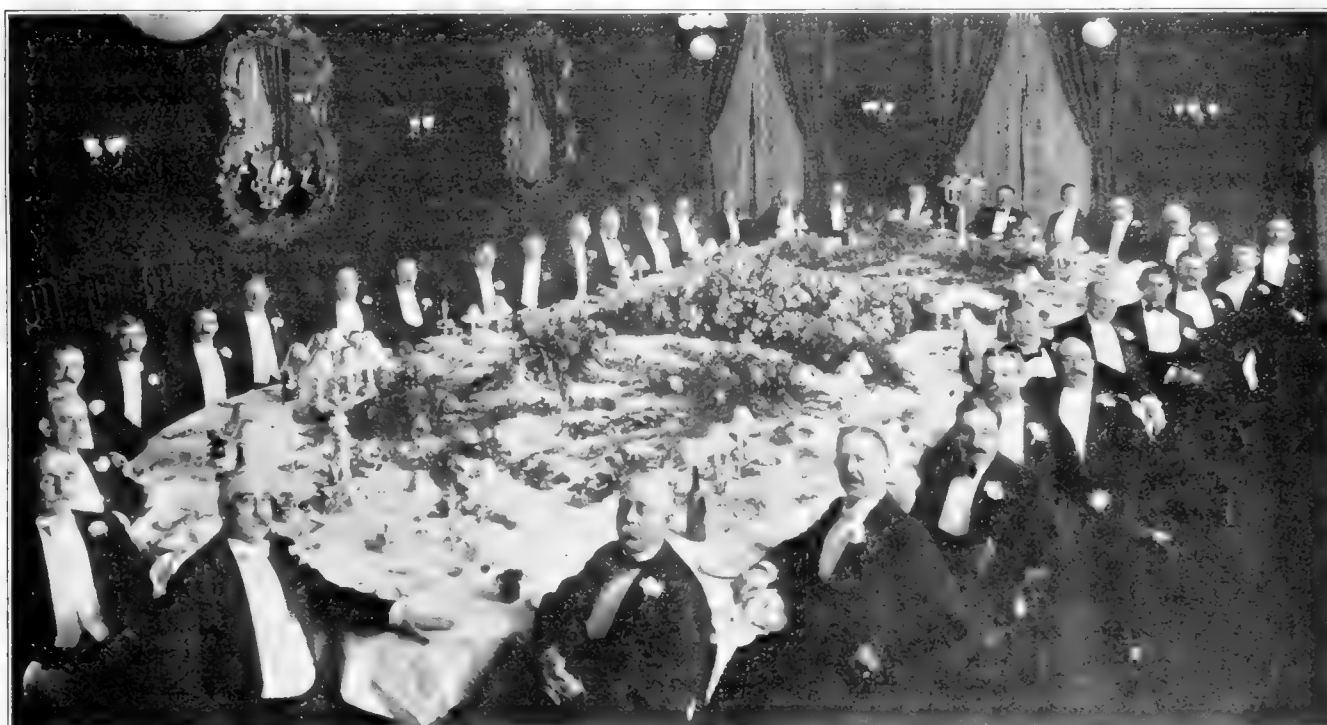
RATES have been lowered materially on rubber tires as freight on the railways in the territory covered by the Western Classification Committee, dating from April 28 last. Not only is the rate lowered on tires in less than carload lots, but the terms "inflated" and "deflated" have been eliminated in describing the packings. Formerly a higher rate was charged on inflated tires, and it was alleged by the manufacturers that practically all the tires shipped were classified as inflated, when, as a matter of fact, all the rubber companies ship them as near a deflated form as possible. This concession is the result of efforts extending over two years. In November last, nothing having been accomplished, Mr. F. R. Lyman, traffic manager of The Fisk Rubber Co., filed with the Interstate Commerce Commission a blanket informal complaint, covering all railways, classification committees, and freight bureaus in the United States. This, however, has been withdrawn, and it is believed that the action of the Western Classification Committee will be followed by similar action by the other committees, each at its next meeting. Indeed, hopes are entertained that a uniform classification will be adopted on tires throughout the country, and commodity rates put into effect equal to those furnished the manufacturers of other products which can be classed in the same line of manufacture and sale as are rubber tires. Mr. Lyman, in his efforts toward this end, has had the active or moral support of other leading tire firms.

MANUFACTURED RUBBER CO.—ANNUAL.

THE annual meeting of shareholders of this company—the second since the reorganization—was held on May 9 at the registered offices in Camden, New Jersey. The report for the business year ending January 31 showed net profits of \$23,348. President Platt said that the company's business during the first three months of the current year showed a satisfactory increase in profits over the same period last year. The company had a satisfactory working capital and was without debt of any kind. The following were elected directors: Clayton E. Platt, John S. Arndt, George G. Peterson, J. P. Cunningham, Edward J. Dumeé, and G. H. B. Martin.

ST. LOUIS RUBBER CEMENT CO.

THE St. Louis Rubber Cement Co. have so increased their business during their short career of 10 months that a new building is in process of construction for them which will provide greatly increased facilities. At the beginning, July 1 last, the output of cement was at the rate of 10 barrels a day. The new building will have a capacity of 100 barrels a day, and in addition there will be ample equipments provided for the handling of a varied line of rubber goods for which the firm will act as agents. Main and Spruce streets, a central location, has been chosen for the prospective business home of the company which, it is expected, will be ready for occupancy by August 1. It will be of steel and brick construction, fire proof, and up-to-date in every particular.



RUBBER SUNDRIES MANUFACTURERS' ASSOCIATION.

(Scene in the banquet room, Hotel Astor, New York, April 12.—See THE INDIA RUBBER WORLD, May 1.)

NEW HEAD OF THE HARTFORD RUBBER WORKS.

At a meeting of the directors of The Hartford Rubber Works Co., in New York, on May 8, Thomas Midgely, who had been a vice president of the company since September last, was elected to the office of president. The position had been held temporarily by Charles H. Dale, president of the Rubber Goods Manufacturing Co. Mr. Midgely went to Hartford in March, 1905, as consulting engineer for the rubber works. He retains the presidency of the Midgely Manufacturing Co., makers of vehicle wheels, at Columbus, Ohio.

THE B. F. GOODRICH CO. IN CHICAGO.

The Chicago branch of The B. F. Goodrich Co. (Akron, Ohio) has been removed from No. 141 Lake street to No. 24 East Lake street, where they will occupy a five story building with basement. This move has been due to the increased business of the company demanding larger quarters. The new move brings them in closer touch with the automobile trade, without taking them out of the mechanical goods and druggists' sundries district.

THE NEW KANSAS RUBBER FACTORY.

The Kansas Rubber Co., located at Olathe, Kansas (a suburb of Kansas City, Mo.), report that the work of equipping their factory is progressing rapidly. The offices have been furnished and occupied, the mill room machinery is installed, and the power plant practically completed. A supply of tire molds, presses, etc., is now due at the factory, as well as the machinery made to order especially for their reclaiming plant, and the company hope to be able to begin operations by July 1.

MAGNESIA PATENTS LITIGATION.

LITIGATION extending over a period of more than five years and involving a sum estimated at more than \$1,000,000, the contesting firms including some of the best known and most wealthy in the United States, has been practically disposed of by the decision of Justice Coxe, in the United States circuit court for the eastern district of New York, in favor of the Keasbey & Mattison Co. (Ambler, Pennsylvania). The suits were the result of alleged infringement of certain patents owned by the Keasbey & Mattison Co., and were directed against the American Magnesia Co., the Philip Carey Co., of Ohio, the C. W. Trainer Co. and the H. W. Johns-Manville Co. There were involved the Hanmore patent (No. 345,843—July 20, 1886), for a magnesia covering for steam pipes, and the Keasbey "machine mold patent.

There is yet one suit to be disposed of—the most interesting and peculiar of the entire number yet tried. The charge is "conspiracy to infringe a patent," and the amount of damages claimed by the Keasbey & Mattison Co. is \$600,000. This is entirely apart from the suits for damages recently disposed of.

BOSTON ASBESTOS WORKERS' STRIKE.

The strike of the Boston Insulator and Asbestos Workers' Union, which was inaugurated on May 1, is still unsettled. The men, about 100 in number, demanded an advance of 50 cents a day, and asked that in case of a

refusal the matter be left to the state board of arbitration. The employers replied that they could not see their way clear to make the advance at this time. The request for arbitration was also denied. At a meeting of the workmen on May 11 a secret ballot was taken with the result that every man present voted to continue the strike. About 25 per cent. of the men have left town.

NEW YORK STOCK EXCHANGE TRANSACTIONS.

UNITED STATES RUBBER CO. :

DATES.	Common.			Preferred.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Apr. 21	9,960	54 7/8	51 1/4	2,400	117 1/8	108 1/2
Week ending Apr. 28	17,900	53 1/4	49 1/4	2,700	109 1/2	106 7/8
Week ending May 5	19,750	51 1/4	48 1/2	4,190	108	105 1/2
Week ending May 12	10,300	51 1/4	50	4,200	111 1/2	108 3/8
Week ending May 19	9,900	51	49 3/4	1,000	110 1/4	109

SECOND PREFERRED.

WEEK ending—	Apr. 21.	Apr. 28.	May 5.	May 12.	May 19.
Sales.....	1,500	50 1/2	1,800	1,400	900
High.....	80 1/2	78 1/2	78 1/2	81 1/4	80 1/2
Low.....	79 1/2	76 3/8	75	78	80

AN UP TO DATE TIRE REPAIR SHOP.

WHEN the Continental Caoutchouc Co. installed a special combination wrapping and buffing machine in their repair shop at No. 43 Warren street, New York, they completed what is one of the best equipped tire repairing plants in America. This, by the way, is the only machine of the kind in this country. Until this machine was put in operation the buffing was mostly done by hand, a slow method at best, and not always satisfactory. Another machine in the Continental outfit that deserves special mention is a sewing machine of extraordinary strength for stitching through tire covers. Besides these, there are five other especially designed machines in use, each having an important part in the general scheme of the shop. All the machines and the men to operate them were imported from the "home" factory, at Hanover, Germany. Twelve men, each an expert in his line,



CONTINENTAL CAOUTCHOUC CO.'S REPAIR DEPOT.
[Corner of the Construction Room, Repair Department.]

are employed, and others will be added to the force as they are needed. Large as is the Continental repair department, it is hardly large enough. In addition to their regularly organized branches in Buffalo, Boston, Cleveland, and Detroit, the Continental Caoutchouc Co. have agencies in Chicago, Philadelphia, San Francisco, and other cities, and all these branches and agencies send their repair work to the New York shop. Mr. Hugo Hofstaedter, the manager of this part of the business, is perfecting plans to establish repair shops in the other cities where the Continental tire business centers. Already a start has been made at Buffalo, and one of the combination wrapping and buffing machines is on the way from Germany to form the nucleus of the Buffalo equipment. All repairs in the Continental shop are made according to the methods employed in Europe, and each tire repaired is sent out under a guarantee.==It may be added that in order to meet the constantly increasing demands of the New York city trade, a branch store for Continental tires has been opened at No. 2100 Broadway, under the management of Mr. J. Stewart Smith, who was formerly in charge of the adjustment department in the company's Warren street offices.

THE NEW COMPANY AT NORTH BROOKFIELD.

A NEW company is being organized for the manufacture of mechanical rubber goods, at North Brookfield, Massachusetts. The new company embrace Mr. Thomas G. Richards, late superintendent and chemist of the Boston Woven Hose and Rubber Co., and Mr. Charles C. Beebe, who was head salesman of the same company, who resigned their positions on May 15, in order to be free to proceed with the organization of the new enterprise. The location of the proposed new factory at North Brookfield is due to the activity of the Industrial Association of that town, through the agency of which subscriptions to the capital of the new company have been made by a number of citizens. The two rubber men above named have proved their ability in their respective lines, though they are still young; they are energetic, and confident of their ability to carry out the new project. The resignation of Mr. Richards from his former position, by the way, makes a fine opening for an ambitious and capable man.

THE NEW YORK BELTING AND PACKING CO.

THE New York Belting and Packing Co., Limited, formerly located at Nos. 605-607 Mission street, San Francisco, have moved their headquarters to No. 918 Broadway. Oakland, California, said location to be retained by them until May 1, 1907, when they will return to the "New City." The management of the Pacific Coast branch is now conducted by Mr. A. H. Gregory, who has been associated with this branch for twelve years past. In seeking the new location, his first object was to protect the interests of the company, and it is needless to say that they are the most centrally located of any of the rubber companies now in Oakland. It is the intention of the New York Belting and Packing Co., Limited, to continue the prosecution of business on the Pacific Coast with the utmost energy, realizing that the large capital at their disposal places them in an enviable position, and considering the fact that the disturbance of this one branch does not materially affect the company, and as they were fully covered by insurance. It is the intention of the company to carry the largest and most complete stock on the Coast, that has ever been carried. They were first on

the ground with a complete stock, and the orders which have come from all parts of the Pacific coast have been shipped with the least possible delay. The parent company, at New York, immediately upon advice that its Pacific Coast branch had been destroyed by fire, telegraphed all their trade of the Coast, on April 19, to forward their orders direct to New York. The loyalty of the various customers to the company was never more fully demonstrated than at this important period. The volume of business that has been booked at the New York office in the interests of the Pacific Coast branch makes it appear on their books as though no interference had taken place in the Pacific Coast branch.

"UBERO" BORGES ON TRIAL.

FERDINAND E. BORGES was placed on trial on May 14, before a jury in a special session of the superior criminal court in Boston, Judge White presiding, on charges connected with the promotion of the Ubero rubber plantation companies. Borges has now been in jail for nearly seven months, in default of \$75,000 bail. He is on trial on two counts of conspiracy to steal and 126 counts of larceny. The history of the promotion has been gone over in great detail, involving the representations made to secure money from the public, with testimony to show that conditions on the plantations in Mexico were not at all as claimed. The trial is still in progress as these pages go to press.

TRADE NEWS NOTES.

THE Combination Rubber Manufacturing Co., of Bloomfield, which recently passed into the control of the Hamilton Rubber Manufacturing Co., of Trenton, is now in first class condition and doing a very satisfactory business. As mentioned in the May issue of THE INDIA RUBBER WORLD, this company increased its capital stock from \$150,000 to \$500,000. The new stockholders assumed and immediately paid off all the liabilities of the company and it is now established on a firm financial footing. Mr. Edmund D. Cook said to THE INDIA RUBBER WORLD representative that he was very well pleased with the volume of business done. The company has all the orders on its books it can fill. The Combination company, while under the control of the Hamilton company, will be operated as an entirely separate plant manufacturing a complete line of general mechanical goods. Mr. Edward Openshaw, formerly of the Home Rubber Co., of Trenton, is superintendent, and Mr. Fred H. Conover, formerly of the United and Globe Rubber Manufacturing Co.'s, is in charge of the executive force. Business conditions at the Hamilton Rubber Manufacturing Co. are also highly satisfactory.

=Captain Bruce Griggs and Captain Fred McDermott, identified hitherto with the navigation of the Columbia river, left New York during the month to investigate conditions on the upper Amazon and its tributaries, with the object of establishing there a line of light draft steamers for trading and commercial purposes. Their objective point is in the rubber districts, and among those who will be interested in their success is a rubber manufacturing company near New York.

=The report of the merger of two important Canadian rubber manufacturing companies, appearing lately in several newspapers, appears to have been published without authority.

=Morgan & Wright, who lost their entire stock of tires in the San Francisco fire, have located offices temporarily with the Pioneer Automobile Co., No. 901 Goldengate avenue, San Francisco.

=Mr. Harrison C. Frost was mentioned in the last issue of this Journal as having been "appointed" second vice president of the Canadian Rubber Co. of Montreal, Limited. The position was created at a recent meeting of the directors, and Mr. Frost duly elected to it, to have charge of the operating departments of the business—manufacturing, purchasing, and selling.

=Mr. J. A. Wade, well known in the New England rubber industry, has been appointed manager of the mechanical goods department of the Canadian Rubber Co. of Montreal, Limited. Mr. F. A. Paulin, connected hitherto with important American tire factories, has been placed in charge of the Canadian company's tire department.

=An attachment for \$25,000 was placed, May 22, on the property of the Atlantic Rubber Shoe Co. (Providence, Rhode Island), in the suit of Ethan H. Cutler, of Boston, to recover money claimed to be due him for services rendered the company while in their employ as selling agent, between April, 1904, and October, 1905.

=The directors of the Boston Woven Hose and Rubber Co. have declared a semi annual dividend of \$3 per share on the preferred stock, payable June 15, 1906, to stockholders of record June 5.

=The International A. & V. Tire Co. (Milltown, New Jersey), have become established at new quarters in San Francisco since the fire—at No. 318 Market street.

=The position of general manager has not been filled for several years past by the United States Rubber Co. This year, however, the position has been revived, and in recognition of the ability of Mr. Homer E. Sawyer, he has been promoted to the discharge of its responsibilities.

=Pennsylvania Rubber Co. (Jeannette, Pa.) have opened branch stores for the sale of their tires and mechanical rubber goods, as follows: *Chicago*, No. 1241 Michigan avenue; *Buffalo, N. Y.*, Main and Tupper streets; *Atlanta, Ga.*, No. 102 North Pryor street—in addition to the branches already established in New York, Philadelphia, Boston, and London.

=Philip Broomfield & Co., dealers in rubber scrap, in Boston, have removed to their new building on Midway street, off A street. They occupy a three story building (4000 square feet on each floor), with a spacious yard adjacent to railway tracks, and equipped with the best mechanical appliances for handling stocks.

=Gustave Van den Kerckhove, for many years identified with India-rubber interests, has opened an office as consulting expert on rubber, at 21, rue de la Ferme, Brussels, for dealing with commercial and technical valuations of crude rubber, and reporting on rubber cultural prospectuses.

=Standard Asphalt and Rubber Co., mentioned in the April INDIA RUBBER WORLD (page 237) as having been incorporated in New Jersey with \$1,000,000 capital authorized, have opened offices in Chicago, at No. 218 La Salle street. E. G. Leszynsky is president, F. S. Ackerman vice president, and A. B. Wilson secretary and treasurer. Work has been begun on the construction of a factory at Independence, Kansas, from the manufacture from crude petroleum of roofing materials, insulating materials, pipe coatings, etc., under patents controlled by the company.

=The India Rubber and Gutta Percha Insulating Co. (New York) have removed their New York office from No. 13 Cortlandt street to No. 253 Broadway, where Mr. James B. Olson, their sales manager, will have largely increased facilities.

=Farrar Fenton, the inventor of what is known in England as Fenton's "artificial rubber," arrived in New York on May 2, en route for Chicago, where a company has been formed for exploiting this product in the United States. The company, known as the National Co., has headquarters at 506 Rector building, and was promoted by Henry P. Daly, of Chicago. Mr. Fenton is 75 years of age.

=Dr. J. T. Cooper, of Paterson, New Jersey, has made arrangements for the manufacture and sale of his "Fear-naught" puncture proof tire in Canada, in which country it has been patented, as well as in Great Britain, France, Germany, and the United States.

=The Canadian Rubber Co. of Montreal, Limited, have placed on the market their new "Keystone" side wire tire. This tire has some features not to be found in any other make, and The Canadian Rubber Co. have exclusive control of the patent rights for manufacture and sale in the Dominion. A large amount of business has been booked, and the carriage trade are displaying great interest in the new tire.

=Mr. R. J. Younge, sales manager of The Canadian Rubber Co. of Montreal, Limited, has been on an extended business tour in western Canada, visiting the company's sales branches and also calling on the trade.

=The new rubber cement factory of The Canadian Rubber Co. of Montreal, Limited, is now in full operation, and exclusive contracts for the supply of rubber cement have now been concluded with some of the principal footwear manufacturers of the Dominion. The plant is equipped with all the latest appliances for the production of high grade cement. Mr. A. D. Thornton, technical superintendent of the company, devotes a good deal of his time to this special branch of manufacture.

=Mr. F. A. Paulin is now in charge of the Tire department of The Canadian Rubber Co. of Montreal, Limited. Mr. Paulin is a Canadian by birth, and spent his early years in the carriage trade in Ontario. He has had extended experience during the past 12 years throughout the larger cities in the United States, and was lately Chicago manager for The India Rubber Co. (New Brunswick, New Jersey).

=Grieb Rubber Co., Inc. (Philadelphia), send out to their customers every month a bulletin calling attention to their newest products, which is original and attractive in appearance and contents, and can hardly fail to be read with interest by those receiving it.

=Hardman Rubber Co. (Belleville, New Jersey), who have been long known as makers of druggists' sundries, have taken on extensively the manufacture of hard rubber syringes, as well as the hard rubber brushes mentioned already in these pages.

=The Postal Novelty Co. (Milwaukee, Wisconsin), who are well known for their original and ingenious ideas in comic postal cards, have favored THE INDIA RUBBER WORLD with a number of their cards, showing what they can do in the rubber line. One card, made in the shape of an express tag, has tied to it a tiny rubber hot water bag, perfect in all but its size. On the back is pictured a dandy toasting, or rather stewing, his toes on a couple of hot water bags. Several cards have a bit of rubber sponge or a rubber baby nipple tied in one corner, with various comic pictures and appropriate inscriptions relative to suckers and sponging on one's betters. The pictures are grotesque, but some of them quite ingenious.

=The O'Sullivan Rubber Co. (Lowell, Massachusetts) received by wire from San Francisco, as soon as the telegraph service was restored after the great fire, an order for 100 gross of their rubber heels.

=Colonel Louis H. Aymé, for several years past United States consul at Pará, Brazil, has been promoted to the position of consul general at Lisbon.

=The American Can Co. (New York) are supplying rubber planters with special shapes of rubber gathering cups, also a variety of utensils for holding, storing, and straining latex.

=Mr. John P. Lyons, advertising manager of the United States Rubber Co., after a vacation of several months spent on the Pacific coast, has resumed charge of his work, in the general offices of the company, in New York, much improved in health.

=The Aiton Machine Co. (New York) have been installing, at their works, at Harrison, New Jersey, a number of additional machine tools, especially adapted to the production of their specialties in wire, cabling, stranding, and rubber machinery.

=G & J Tire Co. (Indianapolis, Indiana) have opened a branch in New York, at No. 10 West Sixtieth street, in charge of Mr. A. T. Smith.

=Mr. Max Loewenthal, treasurer of the U. S. Rubber Reclaiming Works (New York), has gone abroad for an extended tour over Europe, to be gone until September.

=The annual meeting of shareholders of the Consolidated Rubber Tire Co. was held on May 7, at the registered offices of the company, in Jersey City, when the board of directors was reelected. The seven directors were reelected and an eighth member added to the board—Mr. Clinton Todd.

=Referring to a recently reported fire in the factory of the Apsley Rubber Co. (Hudson, Massachusetts), the company advise THE INDIA RUBBER WORLD that the damage was confined to the churn room. The loss, estimated at \$1000 to \$2000, was fully covered by insurance.

RUBBER MEN PLAY BASEBALL.

AN interesting game of baseball was played at Kensington Park, Long Island, on Saturday, May 12, between a team made up from the office force of A. T. Morse & Co. (New York) and the club known as the New York Commercial Co. Baseball Club. The former team won by the score of 13 to 2. The make-up of the teams was as follows:

A. T. MORSE & CO.	NEW YORK COMMERCIAL CO.
Sloss, 1 b.	Manchester, r. f.
Treiss, s. s.	Case, c.
Vyse, c.	Gove, 2 b.
White, 3 b.	Sears, captain, 1 b.
Thorndike, c. f.	Baldwin, p.
Gordon, captain, p.	Frey, 3 b.
Copeland, 2 b.	Morse, c. f.
Kelly, 1 f.	Barwick, s. s.
Foley, r. f.	Silberbauer, 1 f.

GUTTA PERCHA COMPANY AT SAN FRANCISCO.

THE Gutta Percha and Rubber Manufacturing Co. (New York) report as follows regarding their business on the Pacific coast: "We are going right on at San Francisco. We have established temporary headquarters at Alameda, having taken a large warehouse there in Webster street. We have already proceeded to stock it up, having shipped one day four carloads of goods, and supplemented this shipment by sundry other carloads, and by a large amount of miscellaneous goods via water. We have retained all of our old

force and propose working it out on the old line. We have been on the coast you know since 1869 and don't propose to abandon it now."

LETTER FROM SAN FRANCISCO.

GOODYEAR RUBBER Co. [May 8].—Our temporary office is located at No. 2600 Pacific avenue. Our factory, at California and Virginia avenues, was not damaged by fire, and we are making goods there as usual. During the interval before a new building can be erected, we are filling orders as though nothing had happened, from our Portland, Oregon, store. We are also pleased to state that the residences of Mr. Pease and Mr. Runyon, were not within the fire limits. We anticipate a finer and greater San Francisco than before the catastrophe.

Temporary office: No. 2600 Pacific avenue, San Francisco.
[This is the residence of Mr. R. H. Pease.]

GORHAM RUBBER Co. [May 8].—We are located in a two story brick building at the corner of Fourth and Washington streets, in Oakland, and are erecting a warehouse, 50 X 150 feet, adjacent to the railroad tracks in the northern part of this city. We have also leased a piece of land on Fremont street, in San Francisco, on which we will erect a new factory for the manufacture of mechanical rubber goods, and although we realize that a terrible calamity has befallen San Francisco, we believe that it will be rebuilt at an early date. At the present time we have a nice general stock of rubber goods at Fourth and Washington streets with some eight or ten carloads in transit from the East and are in a position to fill orders immediately for almost anything.

Temporary office: Fourth and Washington streets, Oakland, California.

PACIFIC COAST RUBBER Co. [May 9].—We have started business again, at No. 2606 Eighteenth street. Also have an office in Oakland, and on June 1 will have our main office open at California and Drumm streets. We have been filling orders promptly from our Northern stores since the fire. We have a number of carloads on the way from the East and in a few days will be able to fill all orders.

San Francisco office: No. 2606 Eighteenth street near Bryant.
Oakland office: No. 1116 Broadway.

BOWERS RUBBER WORKS [May 10].—Our manufacturing plant and stock of goods in San Francisco was totally destroyed. Our stock in Chicago and Seattle, and our Oakland factory, where we manufacture cotton rubber lined hose, are uninjured. The cotton hose factory is now in operation, making 30,000 feet of fire hose for the city of San Francisco. Our Chicago stock of mechanical rubber is being rushed to the coast, and we have closed up our Chicago distributing depot. All our customers in the middle West will be supplied from our California warehouse. Our new factory, which has been building since last November at Black Diamond, California, is nearly completed. The buildings are reinforced concrete, and the machinery will be operated by electric motors. Everything will be thoroughly up-to-date, and we expect the new factory to be in operation in from 60 to 90 days. Fortunately we were owing very little, and are well insured and can go on in business whether the insurance is paid or not; but as our policies are in the best foreign companies, we expect to collect the full amount for which they were written.

Temporary office: No. 455 Merrimac street, near Broadway, Oakland, California.

U. S. RUBBER RECLAIMING WORKS.

THE Buffalo factory of the U. S. Rubber Reclaiming Works has recently started up again after a shut down of several weeks, during which time new machinery was introduced, and numerous changes in their process. These changes have been in contemplation for some time past, but owing to the heavy demand for their reclaimed rubber the company were unable to put them into practice. Their mill had been in constant operation day and night for more than two years, and though they have increased their capacity until their output is 50 per cent. greater than before, it was not until this time that they could accumulate enough finished goods to permit of shutting down long enough to make the desired changes.

As all who are conversant with the reclaiming business will know, there have been numerous reclaiming patents granted, both here and in Europe, during the past few years, and the U.

S. Rubber Reclaiming Works, some time since, established a complete chemical laboratory and made exhaustive investigation of each patent and process as it came out. All improvements that they considered of merit they obtained control of, either by purchase or royalty. For the purpose of more thoroughly investigating some of the European processes in actual commercial operation, their general superintendent, Mr. Frank H. Brewster, made a trip abroad early in the year, visiting England and the Continent.

After reporting the result of his investigations the company decided to close the mill at the earliest possible moment, long enough to instal the new machinery and make the desired changes that their investigations had shown would result in an improved product. Although the mill has been in operation but a few weeks since the changes have been made, the results have more than met their expectations, and the company are in receipt of many favorable comments from their customers on the new products.

REVIEW OF THE CRUDE RUBBER MARKET.

THE month closes with slightly lower price levels than at the beginning. The prices reported in our last issue were publicly quoted until toward the middle of May, when a decline occurred, since which time the figures have remained practically without change, though it appears that less uniformity obtained in actual transactions than the quotations would indicate. Such conditions are calculated to render buyers uncertain, and during a considerable part of the month there was little tendency on the part of manufacturers to replenish their stocks beyond immediate requirements. Latterly there appears to have been more interest on the part of consumers, though the condition has been what is termed a "buyer's market."

The result of the Antwerp sale on May 4 is referred to in another column. Another sale was announced for May 30, when 328 tons were to be offered. Pontianak advanced toward the end of the month from \$3.76 to \$3.95 @ \$4.50.

Following is a statement of prices of Pará grades, one year ago, one month ago, and on May 31—is date:

PARÁ.	June 1, '05.	May 1, '06.	May 31.
Islands, fine, new.....	132@133	122@123	120@121
Islands, fine, old.....	none here	none here	none here
Upriver, fine, new.....	133@134	126@127	124@125
Upriver, fine, old.....	none here	127@128	125 @126
Islands, coarse, new.....	76@ 77	70@ 71	64½@ 65
Islands, coarse, old.....	none here	none here	none here
Upriver, coarse, new.....	96@ 97	91½@ 92	90@ 91
Upriver, coarse, old.....	none here	none here	none here
Caucho (Peruvian) sheet....	74@ 75	74@ 75	72½@ 72
Caucho (Peruvian) ball.....	82@ 83	85@ 86	84@ 85
Ceylon (Plantation) fine sheet.....			1.50

AFRICAN.		CENTRALS.	
Sierra Leone, 1st qual.....	102 @103	Esmeralda, sausage....	88@ 89
Massai, red.....	102 @103	Guayaquil, strip.....	71½@ 72
Benguella.....	78 @ 79	Nicaragua, scrap.....	85@ 86
Cameroon ball.....	70 @ 77	Panama, slab.....	63@ 64
Accra flake.....	22½@ 23	Mexican, scrap.....	86@ 87
Lopori ball, prime.....	114 @115	Mexican, slab.....	62@ 63
Lopori strip, prime.....	103 @104	Mangabeira, sheet.....	61@ 71
Madagascar, pinky.....	90 @ 97	Guayule.....	35@ 40
Ikelemba.....	115 @116		
Soudan niggers.....	1.01		

Late Pará cables quote:		FAST INDIAN.	
	Per Kilo.	Assam.....	95@ 90
Islands, fine.....	5\$650	Borneo.....	45@ 49
Islands, coarse.....	2\$750		
	Exchange, 16½d.	Upriver, fine.....	6\$800
		Upriver, coarse.....	4\$700

Last Manáos advices:

Upriver, fine.....	6\$600	Upriver, coarse.....	4\$100
Exchange, 16½d.			

Statistics of Para Rubber (Excluding Caucho).

NEW YORK.

	Fine and Medium.	Coarse.	Total. 1906.	Total. 1905.	Total. 1904.
Stocks, March 31.....	381 tons	14 =	395	343	246
Arrivals, April.....	385	374 =	759	1422	1047
Aggregating.....	766	388 =	1154	1765	1920
Deliveries, April.....	406	362 =	768	1154	993
Stocks, April 30.....	360	26 =	386	611	303

PARÁ.

ENGLAND.

	1906.	1905.	1904.	1906.	1905.	1904.
Stocks, March 31.....	136 tons	829	605	905	275	480
Arrivals, April.....	1900	1420	1460	1150	930	590
Aggregating.....	2036	2249	2065	2055	1205	1070
Deliveries, April.....	1769	1753	1955	775	850	575
Stocks, April 30.....	267	496	110	1280	355	405

	1906.	1905.	1904.
World's visible supply, April 30.....	3282 tons	2403	1981
Pará receipts, July 1 to April 30.....	26,164	24,676	23,805
Pará Receipts of Caucho, same dates.....	4355	4364	3729
Afloat from Pará to United States, April 30..	740	136	573
Afloat from Pará to Europe, April 30.....	609	805	500

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: At the sale of May 4 prices were irregular, but on an average were equal to valuations. The transactions comprised the following quantities:

	Exposed.	Sold.
Congo sorts.....	406 tons	394
Other sorts.....	112	72
	518	466

The next big sale by inscription will be held on May 30, when about 325 tons will be offered. C. SCHMID & CO., SUCCESSEURS.
Antwerp, Belgium, May 8, 1906.

MAY 4.—By the *Bruevillesville*, from the Congo :

Bunge & Co., Société Générale Africaine (kilos)	178,000
Do (Société A B I R)	18,000
Do	17,000
Do (Chemins de fer Grand Lacs)	3,000
L. & W. Van de Velde	7,000
Comptoir Commercial Congolais	6,000
Cie. Commerciale des Colonies (Cie. de l'N'Ken)	6,000
Cie. Commerciale des Colonies (La Haut Sangha)	20,000
G. & C. Krelinger (Société "La Lobay")	5,000
Société Générale de Commerce (Alimaïenne)	5,000
Société Coloniale Anversoise (Cie. du Kasai)	89,000
Do (Belge du Haut Congo)	7,000
Do (Cie. de Lomani)	14,000
Do	1,500
	377,500

ANTWERP RUBBER STATISTICS FOR APRIL.

DETAILS.	1906.	1905.	1904.	1903.	1902.
Stocks, Mar. 31, <i>kilos</i>	641,650	323,945	700,735	271,884	841,678
Arrivals in April	392,199	651,928	179,098	605,743	307,834
Congo sorts	28,733	519,774	120,240	550,542	261,739
Other sorts	93,466	111,154	58,858	49,201	46,095
Aggregating	1,033,849	975,873	879,833	877,627	1,149,512
Sales in April	153,391	339,998	438,212	388,828	648,848
Stocks, April 31	880,458	635,875	441,621	488,799	500,664
Arrivals since Jan. 1	2,071,689	1,932,955	1,816,900	1,751,871	1,809,323
Congo sorts	1,573,515	1,542,898	1,443,046	1,505,531	1,608,421
Other sorts	498,174	390,057	373,854	246,340	200,902
Sales since Jan. 1	1,926,418	1,838,411	1,986,179	1,921,177	1,723,368

London.

EDWARD TILL & Co. report stocks [May 1] :

	1906.	1905.	1904.
LONDON { Pará sorts	—	—	—
Plantation, Ceylon and Straits	37	—	—
Borneo	50	12	9
Assam and Rangoon	6	3	5
Penang	194	170	—
Other sorts	268	192	225
Total	555	377	239
LIVERPOOL { Pará sorts	1271	356	495
Caucho	324	298	282
Other sorts	480	484	628
Total, United Kingdom	2630	1515	1644
Total, April	2108	1232	1367
Total, March	1906	1264	1136
Total, February	1539	1298	1341

MAY 11.—Lewis & Peat report : During the greater part of the past week we have had a very flat market, but it has partly recovered itself and closes firmer. The sales include fine hard at 5s. 4d. @ 5s. 4½d. for forward delivery ; Islands negroheads at 2s. 9½d. @ 2s. 10¼d. according to quality. Manóos scrappy in fair demand at 3s. 10¼d. on the spot, and for forward delivery. Cametás 3s. 1¼d. per pound value. *Plantation* : About 15 tons offered and partly sold, the price of ordinary biscuits being about 1d. per pound lower ; crepe only ½d. down ; scrap steady. At to-day's auctions : Mollendo fine 5s. 2½d. ; Beni Bolivian fine 5s. 3½d. ; Mangabeira very sandy sheet 2s. 5½d. ; Columbian good scrap 3s. 8¼d. @ 3s. 10¼d. ; Madagascar white ball 4s. 1d. ; Uganda character 4s. 1¾d. ; Mozambique fine skins 4s. 6¼d. Balata, 99 packages block retired.

PLANTATION RUBBER.

MAY 11.—At to-day's auction 342 packages of Ceylon and Straits rubber were under offer—amounting to about 15 tons, of which 3 from Ceylon and 12 from the Straits. Owing to the increase in the size of sales of these rubbers lately, it has been decided, in the interests of the trade generally, that the auctions shall in future be held at the Commercial Sale Rooms, and this new arrangement was inaugurated to-day. Gow, Wilson & Stanton report these

quotations : Fine sheet, 6s. 1½d. @ 6s. 2¼d. [—\$1.50½] ; fine pale washed crepe and ribbons, 6s. @ 6s. 2¼d. ; fine pale worm, 6s. 2d. ; fine biscuits, 6s. 1½d. @ 6s. 1¾d. ; scrap, fine, 5s. 2d. @ 5s. 3½d. ; scrap, medium, 4s. @ 4s. 9d. ; Rambong (*Ficus elastica*), 4s. 3½d. [—\$1.04½]. Several packages Ceará were offered and bought in. The same firm report exports for the first three months of 1906—Ceylon, 31 tons ; Straits, 56 tons ; total, 87 tons.

Rubber Receipts at Manaos.

DURING March and nine months of the crop season for three years [courtesy of Messrs. Scholz & Co.] :

FROM—	1906.	1905.	1904.	1906.	1905.	1904.
Rio Purus-Acre	353	666	234	6331	5491	5165
Rio Madeira	158	337	356	2568	2628	2444
Rio Jurua	772	518	329	3284	3152	3111
Rio Javary—Iquitos	97	109	115	2490	2397	2183
Rio Solimões	90	60	46	632	788	735
Rio Negro	3	60	26	416	566	384
Total	1473	1756	1106	16021	15022	14022
Caucho	519	709	630	3450	3262	2760
Total	1992	2465	1736	19471	18284	16782

DURING April and ten months of the crop season for three years (courtesy of Messrs. Scholz & Co.) :

FROM—	1906.	1905.	1904.	1906.	1905.	1904.
Rio Purus—Acre	142	308	360	6473	5799	5525
Rio Madeira	227	85	84	2795	2713	2528
Rio Jurua	318	567	348	3602	3719	3459
Rio Javary—Iquitos	106	131	23	2596	2528	2206
Rio Solimões	87	58	73	1019	846	808
Rio Negro	165	133	38	581	699	422
Total	1045	1282	926	17,066	16,304	14,948
Caucho	680	540	408	4130	3802	3188
Total	1725	1822	1334	21,196	20,106	18,116

Para Market.

R. O. AHLERS & Co. report [March 31] :

In consequence of advices of easier rates at the consuming centers, values here have given way. The lower rate of exchange, however, has come to the rescue and caused currency prices to benefit, so that dealers have shown themselves accommodating, and the tendency towards a relaxation of the recent high level of values has had a freer course without doing much harm to the local business. It does not seem likely, however, that the decline will continue and propagate for any length of time, for the fact that the market has come so well through the ordeal of the heavy receipts of the last few months, is a striking testimony of the strength of the general position, nor must it be overlooked that the time of diminishing receipts is near at hand.

R. O. AHLERS & Co. report [May 1] :

The brisk demand, which arrivals found in consequence of declining exchange, has given way to an absolute dull and inactive market, and whilst receipts of Upriver rubber have been almost nil, the moderate business in Island rubber has been handicapped by a slowly rising exchange. The lag end of the Upriver crop is

Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers for car-load lots in cents per pound—are practically without change.	
Old Rubber Boots and Shoes—Domestic	7½ @ 8
Do—Foreign	7½ @ 7½
Pneumatic Bicycle Tires	7½ @ 7½
Solid Rubber Wagon and Carriage Tires	8½ @ 8½
White Trimmed Rubber	10½ @ 11
Heavy Black Rubber	5¼ @ 5½
Air Brake Hose	3¼ @ 3½
Fire and Large Hose	2½ @ 3
Garden Hose	2¼ @ 2½
Matting	1¼ @ 1½

not expected to come in before the second half of next month, so it may be taken as probable that our market will rule very quiet up to that time. Reports of an early fall of the rivers are now confirmed from all quarters, in consequence of which the new Sertão crop will start as early as July from the Madeira.

R. O. AHLERS & Co. report [May 11]:

The quiet tone which prevailed in the market throughout the last week has only momentarily been interrupted by the arrival of some larger lots of Sertão rubber, for which buyers have shown a more eager demand than might have been anticipated after the quiet news from the consuming centers. Milreis prices asked for these lots by holders have consequently been very high and found only reluctant buyers, as exchange developed a steady upward tendency during the last few days.

Liverpool.

EDMUND SCHLÜTER & Co. report [April 30]:

The reports from and the deliveries to the trade in Europe continue satisfactory, but deliveries in America were small, and the visible supply remains about what it was last month. The general opinion is, therefore, that the market will show no important alteration in the near future.

WORLD'S VISIBLE SUPPLY OF PARA, APRIL 30

	1906.	1905.	1904.	1903.	1902.
Tons.....	4965	3217	2777	4316	4895
Prices, hard line 5/4	5 6 3/4	4 9	3 10 3/4	3 11 1/4	

LIVERPOOL STOCKS OF AFRICAN RUBBER, APRIL 30

1906	353	1903	551	1900	898
1905	355	1902	538	1899	473
1904	531	1901	792	1898	425

WILLIAM WRIGHT & Co. report [May 1]:

Fine Pará.—The market has been extremely quiet, and prices have declined fully 1d. per pound. Manufacturers generally have abstained from buying, but there are signs at the close of a more active demand. As the crop is now practically over, in view of the possible American requirements later on, in addition to an anticipated sharp decline in receipts at Manáos, European manufacturers would, we think, be acting wisely in taking advantage of the temporary decline in values. For future delivery sales are small, this owing to the fact that sellers will not quote far distant; a good business would be done for July and August if sellers would quote this position.

Rubber Stealing in Liverpool.

MESSRS. HYDES, LATHAM & CO., 25, Exchange street, East, advise THE INDIA RUBBER WORLD that burglars on a recent Saturday evening broke open their warehouse and took away rubber of the value of about £700 [\$3500]. The burglars left no trace behind, and the police have made no arrest. The local trade quickly raised a fund of £250 which has been guaranteed to the chief constable for disposal as a reward on conviction of the thieves. The firm write: "It would be interesting to the trade here to learn the ultimate destination of this and other parcels of stolen rubber, as the efforts of these warehouse robbers are developing on quite wholesale lines. Should any of your subscribers be offered about 25 cwt. of Sierra Leone Manoh niggers, dry condition; about 7 cwt. old stored and very dry Madagascar ball, or about 2 cwt. old dry Pará, they may assist us by notifying us of the fact and stating through whom the offer was made."

PARA RUBBER VIA EUROPE.

	POUNDS.
APR. 21.—By the <i>Blanca</i> —Liverpool:	
Poel & Arnold (Fine).....	17 1/2
APR. 21.—By the <i>Halcyon</i> —Havre:	
Poel & Arnold (Coarse).....	10 1/2
MAY 1.—By the <i>Carmaria</i> —Liverpool:	
Poel & Arnold (Fine).....	24 1/2
Poel & Arnold (Coarse).....	12 1/2
A. T. Morse & Co. (Coarse).....	12 0 1/2

MAY 3.—By the *Victorian*—Liverpool:

Poel & Arnold (Coarse).....	7 0 1/2
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MAY 3.—By the *Cevic*—Liverpool:

Poel & Arnold (Fine).....	8 5 1/2
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MAY 14.—By the *La Touraine*—Havre:

Poel & Arnold (Fine).....	11 0
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MAY 18.—By the *Irishman*—Liverpool:

Poel & Arnold (Coarse).....	28 0 1/2
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MAY 19.—By the *Campana*—Liverpool:

New York Commercial Co. (Fine)...	11,500
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Ceylon (Plantation) Rubber Exports, 1906.

DETAILS BY WEEKS.

	POUNDS.		POUNDS.
January 1 to Mar. 19....	63,244	Total, 1906.....	79,574
Week ending Mar. 26....	2,833	Same dates, 1905.....	30,853
Week ending Apr. 2....	3,843	Same dates, 1904.....	24,062
Week ending Apr. 9....	1,924	Same dates, 1903.....	12,402
Week ending Apr. 16....	7,730		
Week ending Apr. 23....	7,730		

DESTINATION.

Great Britain.....	60,362	United States.....	11,335
Germany.....	7,072	Belgium.....	220
Australia.....	585		

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

May 1.—By the steamer *Gregory*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Cauchó.	Total.
N. Y. Commercial Co....	166,900	42,900	82,800	125,500	418,100
A. T. Morse & Co.....	172,100	40,700	95,000	44,000	351,800
Poel & Arnold.....	114,800	88,800	91,500	30,100	325,200
Neale & Co.....	20,700	5,000	51,900	1,200	78,800
Edmund Reeks & Co....	23,900	4,800	38,500	...	67,200
Hagemeyer & Brunn....	32,000	2,700	19,700	...	54,400
C. P. dos Santos.....	24,300	4,300	10,400	11,600	50,600
General Rubber Co....	17,800	8,100	11,600	7,600	45,100
Total.....	572,500	197,300	401,400	220,000	1,391,200

May 5.—By the steamer *Dominic*, from Manáos and Pará:

A. T. Morse & Co.....	55,800	8,900	19,500	45,900	130,100
General Rubber Co....	28,200	6,900	17,200	46,400	98,700
N. Y. Commercial Co..	30,300	8,200	19,100	...	57,600
Poel & Arnold.....	14,000	8,600	22,400	12,400	58,000
G. Amsinck & Co.....	20,000	...	14,400	...	34,400
Edmund Reeks & Co....	10,600	600	22,400	300	33,900
Hagemeyer & Brunn....	6,000	3,400	25,400	...	34,800
C. P. dos Santos.....	...	...	13,300	...	13,300
Neale & Co.....	3,500	700	6,300	...	10,500
Total.....	169,000	37,300	160,000	105,000	471,300

May 14.—By the steamer *Fluminense*, from Manáos and Pará:

A. T. Morse & Co....	67,300	9,100	48,000	42,200	166,600
Poel & Arnold.....	55,500	30,700	73,100	12,300	171,600
N. Y. Commercial Co..	61,700	11,800	54,500	600	128,600
General Rubber Co....	2,400	3,400	3,100	26,800	35,700
Edmund Reeks & Co....	10,000	1,200	21,700	...	33,500
G. Amsinck & Co.....	17,000	...	1,400	...	18,400
Neale & Co.....	1,400	...	17,100	...	18,500
Wm. E. Peck & Co....	...	...	10,100	...	10,100
Hagemeyer & Brunn....	3,300	...	10,300	...	13,600
C. P. dos Santos.....	...	...	3,700	...	3,700
Total.....	219,200	56,200	243,000	81,900	600,300

May 24.—By the steamer *Hubert*, from Manáos and Pará:

Poel & Arnold.....	48,500	25,500	67,400	115,400	256,800
A. T. Morse & Co....	65,200	8,300	50,500	36,200	160,200
N. Y. Commercial Co..	23,000	15,100	30,700	7,800	76,600
General Rubber Co....	27,600	5,900	17,100	21,100	71,700
Hagemeyer & Brunn....	35,300	1,400	15,600	...	52,300
Neale & Co.....	10,200	2,000	24,000	2,000	38,800
Edmund Reeks & Co....	15,200	1,900	19,500	...	36,600
Total.....	225,000	60,700	224,800	182,500	693,000

[NOTE.—The steamer *Bernard* from Para, is due at New York, June 4, with 200 tons Rubber and 15 tons Cauchó.]

OTHER ARRIVALS AT NEW YORK

CENTRALS.

	POUNDS.
APR. 23.—By the <i>Yucatan</i> —Mexico:	
I. Steiger & Co.	7,000
Harburger & Stuck	4,000
H. Marquardt & Co	2,000
Graham Hinkley & Co.	1,500
APR. 23.—By the <i>Batavia</i> —Hamburg:	
A. T. Morse & Co.,	3,500

CENTRALS—Continued.

APR. 23.—By the <i>Colon</i> =Colon:	
Roldan & Van Sickle	7,000
Dumarest Bros. & Co.	3,800
G. Amsinck & Co.	2,700
Aramburo Co.	2,200
A. Santos & Co.	1,100
Isaac Brandon & Bros.	900
Kunhardt & Co.	900
Wessels, Kulemkamp Co.	800
Bartling & De Leon	600
W. Loaiza & Co.	700 20,700
APR. 23.—By the <i>Byron</i> =Bahia:	
Adolph Hirsch & Co.	13,000
A. D. Hitch & Co.	3,000
J. H. Rosback & Bros.	2,000 15,000
APR. 23.—By the <i>Protea</i> =New Orleans:	
A. T. Morse & Co.	8,000
APR. 24.—By the <i>El Alba</i> =Galveston:	
New York Commercial Co.	22,000
APR. 26.—By the <i>Sibiria</i> =Colombia:	
Isaac Brandon & Bros.	3,000
Cortez Commercial Co.	2,500
Isaacs & Samuels	1,000
Suvarie & Whitney	1,500
Kunhardt & Co.	500
Mecke & Co.	500 9,000
APR. 28.—By the <i>Esperanza</i> =Mexico:	
H. Marquardt & Co.	8,500
Thebaud Brothers	2,500
E. Steiger & Co.	1,500
American Trading Co.	1,000 13,000
APR. 30.—By the <i>Nagara</i> =Tampico:	
New York Commercial Co.	22,000
Harburger & Stack	1,000
European Account	22,000 45,000
APR. 30.—By the <i>Advance</i> =Colon:	
Hirzel Feltman & Co.	3,500
E. B. Strout	2,500 6,000
MAY 1.—By the <i>Prins Aug. Hm.</i> =Colombia:	
Pedro A. Lopez	5,000
American Trading Co.	2,500
Seanz & Co.	2,000
Roldan & Van Sickle	3,500
Punderford & Co.	1,500
Kunhardt & Co.	1,000
A. Held	1,000
Mecke & Co.	500 16,000
MAY 1.—By the <i>Venetia</i> =Colon:	
G. Amsinck & Co.	1,500
Eggers & Heinlein	1,500
A. S. Lascellas & Co.	500
Thebaud Brothers	1,000
R. G. Barthold	500
George A. Alden & Co.	1,000 6,000
MAY 2.—By the <i>Carmania</i> =Liverpool:	
George A. Alden & Co.	11,500
MAY 3.—By the <i>Panama</i> =Colon:	
Hirzel Feltman & Co.	10,000
Mann & Emdon	3,000
Bartling & DeLeon	500 13,500
MAY 3.—By the <i>Trent</i> =Caribbean:	
G. Amsinck & Co.	4,000
Striebel Brothers	2,000
D. A. DeLima & Co.	1,000
E. B. Strout	500
Mecke & Co.	500
Roldan & Van Sickle	500 8,500
MAY 5.—By the <i>El Paso</i> =New Orleans:	
A. T. Morse & Co.	3,000
A. N. Rotholz & Co.	300
Manhattan Rubber Mfg. Co.	3,000 1,000
MAY 7.—By the <i>Vigilancia</i> =Mexico:	
Harburger & Stack	6,500
H. Marquardt & Co.	5,000
Graham, Hinkley & Co.	3,500
E. N. Tibbals & Co.	1,500
Fred Probst & Co.	1,000
E. Steiger & Co.	1,000 18,500
MAY 7.—By the <i>Carib II</i> =Ceiba:	
Eggers & Heinlein	7,000
H. W. Peabody & Co.	500
R. G. Barthold	500 8,000
MAY 7.—By the <i>Protea</i> =New Orleans:	
A. T. Morse & Co.	4,500
G. Amsinck & Co.	2,500
A. N. Rotholz	2,000 9,000
MAY 8.—By the <i>Minnetonka</i> =London:	
General Rubber Co.	46,000
MAY 9.—By the <i>Albama</i> =Colon:	
Hirzel, Feltman & Co.	6,000
Dumarest & Co.	5,000
Piza, Nephews & Co.	5,000
Aramburo Co.	4,000

CENTRALS—Continued

G. Amsinck & Co.	3,000
A. Santos & Co.	2,000
Isaac Brandon & Bros.	2,000
Roldan & Van Sickle	1,500
De Sola & Partolo	2,000
Andreas & Co.	1,500
Wessels, Kulemkamp Co.	1,000
Graham, Hinkley & Co.	1,000
Lawrence Johnson & Co.	500
A. M. Capens Sons	500 15,000
MAY 12.—By the <i>El Sud</i> =Galveston:	
Continental & Mexican Co.	45,000
MAY 12.—By the <i>Monterey</i> =Mexico:	
Harburger & Stack	15,000
E. Steiger & Co.	3,500
Strube & Ulitz	1,500
American Trading Co.	1,500 21,500
MAY 14.—By the <i>Financ</i> =Colon:	
Hirzel, Feltman & Co.	16,000
E. B. Strout	2,500
Mann & Emdon	2,500
Isaac Brandon & Bros.	1,000 22,000
MAY 14.—By the <i>Comas</i> =New Orleans:	
Manhattan Rubber Mfg. Co.	1,500
A. T. Morse & Co.	1,500
Eggers & Heinlein	1,000 1,000
MAY 14.—By the <i>City Washingt.</i> =Tampico:	
Edward Maurer	22,500
H. Marquardt & Co.	1,000
Harburger & Stack	1,000 24,500
MAY 15.—By the <i>El Siglo</i> =Galveston:	
Continental & Mexican Co.	30,000
MAY 15.—By the <i>Alleghany</i> =Colombia:	
Isaac Brandon & Bros.	2,500
Kunhardt & Co.	3,500
Roldan & Van Sickle	1,000
A. N. Rotholz	500
A. D. Straus & Co.	500 8,000
MAY 17.—By the <i>Soldier Prince</i> =Bahia:	
Adolph Hirsch & Co.	10,000
American Commercial Co.	2,500 12,500
MAY 17.—By the <i>Orinoco</i> =Caribbean:	
G. Amsinck & Co.	4,500
Aramburo Co.	2,000
E. B. Strout	2,000
George A. Alden & Co.	2,000
A. M. Capens Sons	1,500 12,000
MAY 18.—By the <i>Colon</i> =Colon:	
Hirzel Feltman & Co.	2,000
Bartling & DeLeon	2,000 4,000
MAY 19.—By the <i>El Mar</i> =Galveston:	
Continental & Mexican Co.	56,000
MAY 19.—By the <i>Seguranc</i> =Mexico:	
H. Marquardt & Co.	1,500
Graham, Hinkley & Co.	1,500
Fred Probst & Co.	1,000
E. N. Tibbals & Co.	500
American Trading Co.	500
E. Steiger & Co.	500 5,500
MAY 21.—By the <i>Chalmette</i> =New Orleans:	
A. T. Morse & Co.	8,000
A. N. Rotholz	3,000 11,000
MAY 21.—By the <i>Tennison</i> =Bahia:	
Adolph Hirsch & Co.	11,000
American Commercial Co.	8,000
Laurence Johnson & Co.	2,000 21,000
MAY 21.—By the <i>Virginia</i> =Colombia:	
Kunhardt & Co.	3,000
Pedro A. Lopez	2,500
L. N. Chemedlin & Co.	2,000
G. Amsinck & Co.	1,500
Seanz & Co.	500
W. Loaiza & Co.	500 11,000
MAY 23.—By the <i>El Norte</i> =Galveston:	
Continental & Mexican Co.	33,000
MAY 23.—By the <i>Sibiria</i> =Costa Rica:	
Isaac Brandon & Bros.	3,500
Wessels, Kulemkamp Co.	500 4,000

AFRICANS.

FOUNDS.

AFRICANS—Continued.

APR. 24.—By the <i>Indian</i> =Antwerp:	
Rubber Trading Co.	5,500
APR. 26.—By the <i>Taylor</i> =Liverpool:	
A. T. Morse & Co.	5,500
Rubber Trading Co.	3,500
George A. Alden & Co.	2,000 11,000
APR. 26.—By the <i>Prins Fethel</i> =Hamburg:	
Poel & Arnold	9,000
APR. 27.—By the <i>Patricia</i> =Hamburg:	
George A. Alden & Co.	27,000
APR. 30.—By the <i>Ebora</i> =Liverpool:	
George A. Alden & Co.	2,000
APR. 30.—By the <i>Cedra</i> =Liverpool:	
General Rubber Co.	56,000
A. T. Morse & Co.	23,000
George A. Alden & Co.	22,000
Rubber Trading Co.	2,500 103,500
MAY 1.—By the <i>Minneapolis</i> =London:	
George A. Alden & Co.	33,000
MAY 1.—By the <i>Laderland</i> =Antwerp:	
Joseph Cantor	11,000
MAY 2.—By the <i>Carmania</i> =Liverpool:	
General Rubber Co.	63,000
George A. Alden & Co.	11,000 74,000
MAY 3.—By the <i>Victorian</i> =Liverpool:	
Poel & Arnold	22,000
MAY 4.—By the <i>Balti</i> =Liverpool:	
Rubber Trading Co.	11,000
A. T. Morse & Co.	9,000 20,000
MAY 5.—By the <i>Lucania</i> =Liverpool:	
George A. Alden & Co.	17,000
MAY 7.—By the <i>Pretoria</i> =Hamburg:	
Rubber Trading Co.	7,000
Earle Brothers	2,000 9,000
MAY 8.—By the <i>Koonland</i> =Antwerp:	
Joseph Cantor	16,500
MAY 8.—By the <i>Civic</i> =Liverpool:	
General Rubber Co.	11,000
MAY 9.—By the <i>Peninsular</i> =Lisbon:	
General Rubber Co.	56,000
MAY 10.—By the <i>Westernland</i> =Antwerp:	
Poel & Arnold	17,000
MAY 10.—By the <i>Majestic</i> =Liverpool:	
A. T. Morse & Co.	13,500
MAY 14.—By the <i>Waldersee</i> =Hamburg:	
General Rubber Co.	16,000
A. T. Morse & Co.	4,500 20,500
MAY 14.—By the <i>Umbria</i> =Liverpool:	
General Rubber Co.	45,000
George A. Alden & Co.	5,000
Rubber Trading Co.	9,000
Joseph Cantor	3,500 62,500
MAY 15.—By the <i>Zeland</i> =Antwerp:	
George A. Alden & Co.	30,000
Poel & Arnold	4,500 34,500
MAY 17.—By the <i>Canonia</i> =Liverpool:	
General Rubber Co.	57,000
Poel & Arnold	45,000
George A. Alden & Co.	33,000
A. T. Morse & Co.	5,000 140,000
MAY 18.—By the <i>Irishman</i> =Liverpool:	
Poel & Arnold	22,500
MAY 19.—By the <i>Campania</i> =Liverpool:	
George A. Alden & Co.	30,000
General Rubber Co.	13,500 43,500
MAY 19.—By the <i>La Savoie</i> =Havre:	
Rubber Trading Co.	7,000
MAY 21.—By the <i>New York</i> =London:	
General Rubber Co.	25,000
George A. Alden & Co.	20,000 45,000
MAY 21.—By the <i>Kaiserine Victoria</i> =Hamburg:	
A. T. Morse & Co.	20,000
MAY 21.—By the <i>Finland</i> =Antwerp:	
A. T. Morse & Co.	95,000
George A. Alden & Co.	85,000
Western Electric Co.	30,000
Joseph Cantor	10,000
Poel & Arnold	15,000
Robinson & Stiles	15,000
Rubber Trading Co.	3,000 265,000

EAST INDIAN.

APR. 23. By the <i>Leipzig</i> =Hamburg: F. R. Muller & Co.	3,500
APR. 23. By the <i>Minneapolis</i> =London: George A. Alden & Co.	11,500
APR. 23. By the <i>Indramayo</i> =Singapore: George A. Alden & Co. Pierre F. Betts Poel & Arnold Heabler & Co.	70,000
APR. 28. By the <i>Baroness</i> =Calcutta: George A. Alden & Co.	7,000
MAY 3. By the <i>Rhine</i> =Calcutta: A. T. Morse & Co.	2,000
MAY 7. By the <i>Philadelphia</i> =London: Poel & Arnold MAY 8. By the <i>Minnetonka</i> =London: Robinson & Stiles A. T. Morse & Co. George A. Alden & Co.	11,500 2,000 11,500
MAY 14. By the <i>St. Paul</i> =London: Poel & Arnold MAY 14. By the <i>Manhattan</i> =Colombo: A. T. Morse & Co.	13,500 11,500
MAY 18. By the <i>Fishman</i> =Liverpool: Poel & Arnold MAY 19. By the <i>Yeddo</i> =Singapore: George A. Alden & Co. Heabler & Co. Poel & Arnold Pierre F. Betts F. R. Muller & Co.	8,000 80,000 30,000 25,000 11,000 11,800 157,000
APR. 21. By the <i>New York</i> =London: A. T. Morse & Co.	3,500
MAY 22. By the <i>Armenian</i> =Liverpool: Poel & Arnold MAY 22. By the <i>Minneapolis</i> =London: George A. Alden & Co.	9,000 3,500

EAST INDIAN.—Continued.

MAY 22.—By the <i>Minneapolis</i> =London: George A. Alden & Co.	3,500
GUTTA-JELUTONG.	
APR. 23. By the <i>Indramayo</i> =Singapore: George A. Alden & Co. Pierre F. Betts Poel & Arnold L. J. Littlejohn & Co.	160,000 55,000 160,000 125,000 543,000
MAY 19. By the <i>Yeddo</i> =Singapore: Heabler & Co. L. Littlejohn & Co. W. Lappenbach Co. Pierre F. Betts MAY 19. By the <i>La Savoir</i> =Havre: George A. Alden & Co.	260,000 100,000 55,000 30,000 445,000 2,500
MAY 21. By the <i>Kaiserin Victoria</i> =Hamburg: To Order.	7,500

GUTTA-PERCHA AND BALATA.

APR. 23. By the <i>Batavia</i> =Hamburg: Earle Brothers.	11,500
APR. 23. By the <i>Minneapolis</i> =London: F. R. Muller & Co.	30,000
APR. 23. By the <i>Indramayo</i> =Singapore: Heabler & Co. Earle Brothers.	15,000 6,000 21,000
MAY 19. By the <i>La Savoir</i> =Havre: George A. Alden & Co.	2,500
MAY 21. By the <i>Kaiserin Victoria</i> =Hamburg: To Order.	7,500
BALATA.	
APR. 23. By the <i>Batavia</i> =Hamburg: Earle Brothers.	13,500
APR. 23. By the <i>Minneapolis</i> =London: F. R. Muller & Co.	7,000
MAY 7. By the <i>Maracas</i> =Trinidad: Thebaud Brothers. Newman & London.	5,000 1,500 6,500
MAY 9. By the <i>Potsdam</i> =Rotterdam: George A. Alden & Co.	1,500

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—APRIL.

Imports:	Pounds.	Value.
India rubber.	5,437,360	\$4,443,292
Gutta-percha.	23,293	10,235
Gutta-jelutong (Pontianak).	1,915,745	54,521
Total.	7,376,498	\$4,508,048

Exports:	Pounds.	Value.
India-rubber.	69,610	\$ 49,483
Reclaimed rubber.	70,882	8,991
Rubber scrap imported.	851,844	\$ 65,374

BOSTON ARRIVALS.

	POUNDS.
APR. 2.—By the <i>Rapallo</i> =Hamburg: George A. Alden & Co.—African.	51,625
APR. 5. By the <i>Coulsdon</i> =Singapore: George A. Alden & Co.—East Indian.	96
APR. 5.—By the <i>Philadelphian</i> =London: George A. Alden & Co.—East Indian.	2,526
APR. 7.—By the <i>Sylvania</i> =Liverpool: George A. Alden & Co.—African.	6,616
APR. 20.—By the <i>Cestrian</i> =Liverpool: George A. Alden & Co.—African.	26,511
APR. 23.—By the <i>Cymric</i> =Liverpool: Poel & Arnold.—African. George A. Alden—African.	25,771 11,600 37,371
Total.	124,745

[Value \$85,000.]

GUTTA-PERCHA.

APR. 28.—By the <i>Halifax</i> =Halifax: Returned stuff.	2,435
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OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
March, 1906.	5,049,374	205,071	5,654,313
January-February.	13,147,240	687,488	12,460,752
Three months, 1906.	10,007,024	982,559	18,115,005
Three months, 1905.	26,412,435	728,348	25,684,087
Three months, 1904.	23,260,349	909,245	22,357,104

GERMANY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
March, 1906.	8,955,980	2,666,180	6,289,800
January-February.	11,233,860	4,007,300	7,226,560
Three months, 1906.	9,180,180	3,149,740	6,030,440

FRANCE.*

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
March, 1906.	3,907,840	1,703,020	2,204,820
January-February.	4,986,520	2,476,320	2,510,200
Three months, 1906.	8,084,360	4,179,340	4,865,020
Three months, 1905.	7,165,180	2,804,980	4,270,200
Three months, 1904.	5,971,680	3,824,260	2,147,420

BELGIUM +

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
March, 1906.	2,395,374	1,300,818	1,094,566
January-February.	3,313,180	1,521,091	1,792,089
Three months, 1906.	5,708,553	2,821,909	2,886,664
Three months, 1905.	4,205,013	3,000,040	1,204,973
Three months, 1904.	5,100,084	4,014,577	1,085,507

GREAT BRITAIN.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
March, 1906.	6,650,896	3,719,632	2,931,264
January-February.	10,996,272	6,156,192	4,840,080
Three months, 1906.	17,647,168	9,875,824	7,771,344
Three months, 1905.	15,093,376	10,248,456	5,744,920
Three months, 1904.	16,589,216	10,119,430	6,469,786

ITALY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
March, 1906.	252,780	9,460	243,320
January-February.	452,980	60,720	392,260
Three months, 1906.	705,760	70,180	635,580
Three months, 1905.	417,340	66,220	351,120
Three months, 1904.	447,480	25,960	421,520

AUSTRIA-HUNGARY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
March, 1906.	687,940	440	687,500
January-February.	723,360	1,100	722,260
Three months, 1906.	760,340	10,340	750,000

NOTE.—German statistics include Gutta-percha, Balata, old (waste) rubber, and substitutes. British figures include old rubber. French, Austrian, and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

* General Commerce.

+ Special Commerce.

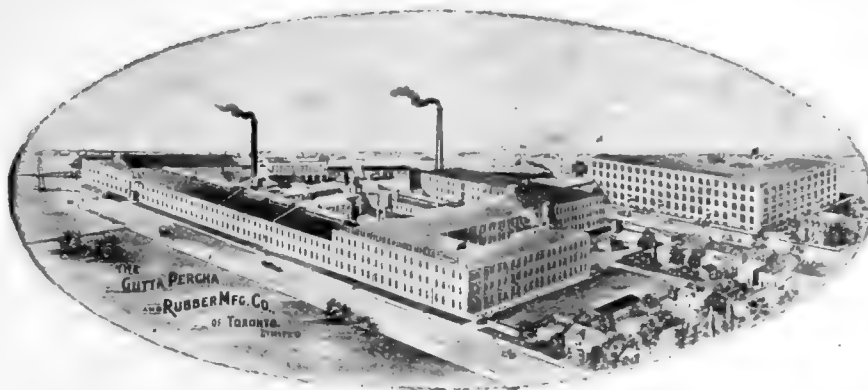
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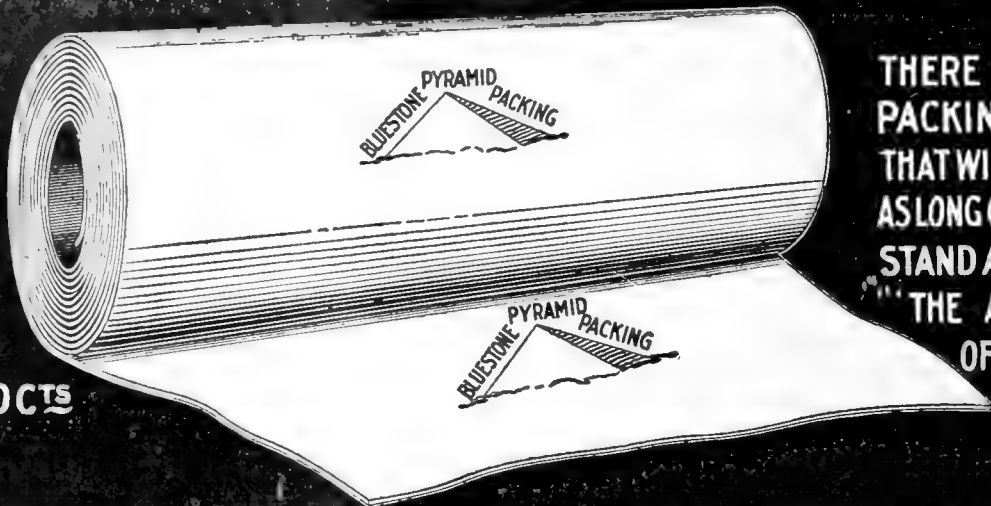
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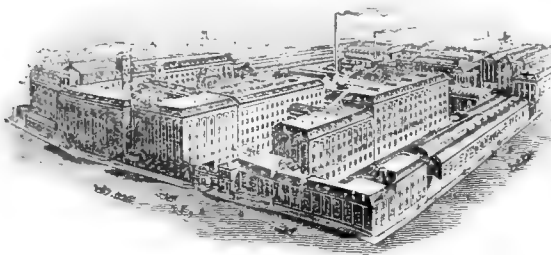
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RUBBER PRICES BECOMING MORE STABLE.

NOT so much is heard nowadays as formerly of the influence of speculation upon the price of crude rubber, and this is probably due to a reason which in time may lead to the disappearance from the trade of speculation, real or alleged. As is well known, the extent of the "invisible supply" of rubber long has proved an inconvenient factor in estimating the crude rubber market situation. It has mattered little how well one might be informed in regard to purchasable stocks, and the rate of production and consumption, so long as no idea could be formed of the amount held in store by manufacturers. Hence the most carefully made estimates of the probable requirements of the market in any particular period have often been upset by an unexpected failure of the trade to buy.

Time was when manufacturers were compelled to buy rubber ahead of their current needs, if for no other reason, to allow it to become thoroughly dried. When the best practice called for the drying of certain rubbers for a year, every important factory necessarily carried large stores, which not only rendered impossible any accurate estimate of the total rubber available in the country—therefore rendering the course of prices more uncertain—but it involved the tying up of much capital in raw material. There was, however, the advantage of the manufacturer being able to remain out of the market, in the event of a sudden sharp advance, until a decline occurred. But gradually the time devoted to drying rubber has been lessened—to a few months, then weeks, and even to 24 hours or less—until many factories now carry very little rubber in store as compared with what was formerly considered essential.

This change of factory practice brings about the buying of rubber more generally on the "hand to mouth" basis, and is leading to the disappearance, in large part, of the "invisible supply." This is now safer than formerly, because of the improved means of communication which, for example, enable the New York trade to learn by cable how much rubber exists at any moment at Manáos, or Accra, or any other primary market, and practically the date on which it can be delivered here. The manufacturer no longer feels obliged to keep a large supply on hand because of uncertainty on these points, which once was as necessary as storage for the slow drying of rubber.

The new condition, therefore, may be summarized as follows: The amount of available rubber in the world can be ascertained accurately on any date, and the amount due to arrive from the principal original sources for at least a few weeks ahead can be calculated with some degree of safety. If, therefore, the average manufacturer can be assumed to hold small stocks, less basis exists than formerly for speculation pure and simple, and prices must constantly tend to become more stable. These tendencies have been at work for years, and the

results to which they point appear to be becoming realized facts. Of course the price of rubber must always fluctuate, as is true of every other commodity, but not necessarily to such an extent as to keep the consumer in a constant state of anxiety.

THE BICYCLE AND THE AUTO.

THERE are some people who, in considering the automobile trade and its great demand for rubber tires, still refer to the rapid rise and decline of bicycling, a few years ago, as an experience which may be repeated in connection with the automobile. The growth in popularity of the automobile does, indeed, suggest the development of the bicycle "craze," but there the similarity ceases. The bicycle may be regarded as a toy which prepared the way for a vastly practical new type of vehicle, with infinite applications in use.

The bicycle filled for awhile an entirely new field, without displacing to any great extent any previous means of getting about. The automobile, on the other hand, has displaced a great number of horse drawn carriages, with such satisfaction to its users that it is hardly worth while to consider the possibility of everybody going back to the old type of vehicle for purposes of pleasure and utility. No doubt many individual users of automobiles to-day may give them up. But ever since horse drawn carriages were first devised there have been owners of such vehicles who gave up their use—grew tired of them or unable to maintain them—but all the while the number of carriages increased. So the retirement every year of many automobilists from the field need not indicate the decline of automobilism—provided, of course, that the modern vehicle has absolute merit, which it undoubtedly has.

We have referred here to the automobile as a vehicle of the pleasure type. But this is not all. The business man who in time may lose his interest in motoring, will, if he has successfully adopted commercial vehicles in his business, continue their use so long as they prove more economical than any other vehicle. The various types of passenger vehicles now coming into public use are not supported as a mere "fad," and will be run wherever and so long as they prove profitable. And the great variety of other wheeled apparatus—fire engines, ambulances, mail wagons, and the like—when once they have demonstrated their superiority to the vehicles and machines which they displace, will not be thrown out of use in response to any mere whim of fashion.

The bicycle has no standing for purposes of comparison. The automobile, in its various forms, is more like a locomotive, doing more work and better and quicker work than the horse in countless situations, without being restricted to steel roadways, and seems bound to last until something even better is developed. And while this condition lasts the demand for rubber tires—and better rubber tires—will grow.

THE FUTURE CABLE INSULATION.

THE construction of submarine cables, though seldom brought to the attention of the average reader, continues to be a most important branch of the rubber and allied industries. Everybody knows that the Atlantic and Pacific ocean beds are spanned by cable lines, and is prepared to hear that many less important bodies of water are similarly crossed. But the total mileage of such cables, and the amount of costly insulation work involved, call for figures which would be surprising to most otherwise well informed persons. According to the figures compiled by *The Electrician* the total length in nautical miles of submarine cables in operation increased from 161,384 in 1895 to 233,823 in 1905—a growth of 45 per cent. in 10 years. In other words, an average annual increase of 7243 miles, or nearly three times the length of the average transatlantic route.

The largest single submarine cable interest is that of the Eastern Telegraph Co., Limited, and the two allied companies, under practically the same management—lately amounting to 73,130 nautical miles, described in a list of the world's cables as 188 different items, and placing nearly every port in the Far East in touch with the rest of the world. The capital shares and debentures of this group of companies—£12,743,506, or over \$63,000,000—are almost without exception yielding dividends, and quoted at a premium on the London Stock Exchange. The number of cable companies has increased steadily and the length of their lines extended, despite the caution which capital has been taught by the introduction of wireless telegraphy.

For most of the great ocean cables, it is true, India-rubber has not been used for insulation, but Gutta-percha. The utility of India-rubber for this purpose has been proved, however, and its employment will be enforced in time by the exhaustion of the natural supplies of Gutta-percha—a material produced under cultivation less readily than rubber. But cable building may properly be included with the rubber industry for the reason that nearly if not all the ocean cables in service have been constructed in works which also manufacture rubber goods, and which do not draw a line between their profits from rubber and gutta, respectively. Ultimately it is possible that they will all be using India-rubber in their submarine work, as they already are in insulation for so many purposes on land.

With means of communication, as with transportation, every extension seems to call for a new one—a line to-day becomes a "system" to-morrow—so that the making of ocean cables may be expected to grow indefinitely. Moreover, the question of replacement of existing cables, though not discussed nowadays, must some time have to be dealt with—all calling for more and more insulating material. It is a fact full of encouragement to the planting interest that all this material, in time, will be rubber.

IF MONEY HAS BEEN FRAUDULENTLY OBTAINED—and especially from persons ill prepared to sustain a loss—whether for the alleged purpose of forming rubber plantations or on any other pretense, the law should be enforced, as it appears will be done in the case of Borges, one of the promoters of the Boston "Ubero" companies. But in this case it is doubtful whether the chief offender has been brought to justice. The companies in whose interest Borges worked were not of his suggesting or planning, nor is it certain that he gained the larger share of the funds misappropriated. The master mind was that of a man who stood high in public esteem—a man of capacity who had the good record of a lifetime to aid him in surrounding the schemes with every evidence of respectability. This man is now a fugitive from justice, and it is inconceivable that he should have consented to sacrifice his reputation and become an outcast from his native land without the assurance of a liberal pecuniary reward. With Owen free, the conviction of his coadjutor and tool does not sufficiently vindicate the majesty of the law in this case.

THE PREDICTION BY DR. WILLIS, of the Ceylon botanic gardens, that the Far East will, within 7 years, be producing 10,000,000 to 15,000,000 pounds of cultivated rubber, and in 15 years "probably exceed the exports of Brazil," is the deliberate utterance of a careful student of the rubber situation. The Editor of this Journal, expressing his conclusions, independently arrived at, before a meeting of rubber men in New York a year ago, pointed out that there were already in the Far East quite as many healthy *Hevea* trees under cultivation as were supposed to be tapped yearly in the Amazon valley—a fact which goes far to support the position of Dr. Willis. Meanwhile more rubber trees are being planted every year, while the number of wild trees tapped does not appear to increase.

A POINT WHICH APPEARS TO BE OVERLOOKED, in the reports of a number of severe automobile tests made lately, is that so few tire troubles occurred. For instance, when Mr. Megargel reached New York, during the month, on his return from a 12,000 mile trip to the Pacific and back, traveling much of the way over wholly unimproved roads, it resulted in high and merited praise for the machine and its occupant. But no published report refers to the much more striking test which the trip afforded of the excellence of the pneumatic tires used. It is understood that only ten tires were employed, all told, and the automobile reached New York with its tires in condition for many more miles' running.

THE POPULATION OF MANÁOS, the rubber city, is reported to be 48,000. The state—of which Manáos is the only city—has been making a loan in London of \$1,703,275 (in United States money), which amounts to \$35.48 *per capita*. Considering the extravagance of Manáos financiering in the past, \$35.48 each is not likely to keep its citizens in funds very long. Why didn't they make it even \$36?

NOTHING MORE CLEARLY INDICATES the progressiveness of the rubber industry in America than the readiness and the success with which the manufacturers adopt new grades of rubber. Every new rubber receives prompt and careful attention, and factory practice is speedily adopted to make it of the utmost possible service. Doubtless the facts given on

another page in regard to the amount of Guayule now being consumed in the United States will surprise many in the trade, and THE INDIA RUBBER WORLD is assured that, while little of the plantation rubber from the Far East is imported direct, a very considerable proportion of such rubber produced is consumed in this country.

THERE IS A PROSPECT that the United States may yet become a rubber producing country—and that without going to its tropical dependencies—through the utilization of the Guayule plant, which is known to occur north of the Mexican boundary.

THE FACT THAT THE TIRE POOL is about to disintegrate is published and not only rubber manufacturers but all who use tires are much interested. Brought down to their last analysis the opinions are that the results will be two. First, that tires will be somewhat cheaper; second, that the temptation to make poorer grades of tires which has heretofore not existed in any great measure will be at once introduced into the business. Of course the fact that the tire pool goes out of existence does not make it any easier for manufacturers who are not licensees under certain tire or rim patents to enter the business.

THE GOVERNMENT COTTON CROP REPORT, which has figured largely in the news of the month past, has always a very direct bearing upon the prices of this material. Considering the constant changes in the prices of this domestic staple, the production of which has been so long systematized, it would not be strange if rubber, a tropical forest product, had fluctuated even more than it has.

IT IS NOT KNOWN WHEN THE "SIXTY DAYS" within which the Colorado rubber was to appear on the market will expire.

STILTS FOR HIGH RUBBER TAPPING.

A PRACTICE in the turpentine producing regions of France, described in the New Orleans *Times-Democrat*, might possibly be adopted with advantage in the tapping of rubber trees, in some circumstances. It is walking on stilts.

It appears that young pine trees are tapped low, but with each year's passage the incision is made higher up, so that it is not long before most of the trees are tapped 20 or 30 feet from the ground. Hence the huge stilts of the workmen. On these stilts they traverse the flat country, covering five or six yards with each stride, and quickly and easily collect the turpentine that overflows the little buckets hanging high up in the trees.

The stilt wearers carry a 15 foot staff with a round, flat top like a dinner plate. When it is lunch time or when they are tired they plant upright under them the staff and sit down on its round, flat top. Then in comfort seated so dizzily high, they eat and rest and chatter—a strange sight to behold.

Where rubber trees are to be tapped at a considerable height from the ground, as not infrequently happens, the use of stilts might prove more convenient some times than any means now employed by the rubber gatherers for reaching their work.

THE OBITUARY RECORD.

RICHARD PRATT MARVIN, secretary of The B. F. Goodrich Co. (Akron, Ohio), and a large stockholder in the company, died at his home, Portage Path, Perkins Hill, near Akron, on Saturday morning, June 23. His death, which followed an illness of two years, was the immediate result of a stroke of paralysis which he suffered on the preceding Tuesday. Mr. Marvin was born at Jamestown, New York, May 30, 1848. He was the son of Judge Richard P. Marvin, of the New York supreme court, and Isabella Newland Marvin.

Mr. Marvin was a graduate of Rochester University, in the class of 1870. He studied law in Jamestown and, removing to Akron, was admitted to the bar in 1872, and afterward practiced law with the late Judge E. P. Green. He was mayor of Akron in 1874 and again in 1878. Shortly after being admitted to the bar Mr. Marvin became legal adviser of the late Dr. B. F. Goodrich. In 1880 he became secretary of The B. F. Goodrich Co., which position he occupied until his death, and was active in the management of that large corporation. In 1892 he married Jane, the daughter of the Hon. Lewis Miller. Mr. Marvin died in 1898. In 1900 Mr. Marvin married Mrs. Grace Perkins Lohmann, who survives him. Mr. Marvin for many years was active in the Masonic fraternity, being both a Thirty-third degree Mason and a Mystic Shriner. Funeral services were held on Monday, June 25, the interment being in Glendale cemetery, in Akron. During the hours of the funeral the plant of the Goodrich company was closed.

Something over a year ago, on account of Mr. Marvin's impaired health, the office of assistant secretary of the Goodrich company was created, to relieve him from active charge of the office of secretary.

OTTO G. MAYER, of New York, who died on June 23, was for a number of years connected in an important way with the crude rubber trade. Born in 1852, at Mannheim, Germany, he came to New York when about 20 years of age to enter the employ of Erwin Gompertz, a merchant engaged in trade with Europe. Mr. Gompertz returning to Paris, his business was continued by Materne & Mayer, and later by Mr. Mayer alone, until 1886. In that year he joined the firm of De Long, Mayer & Co., successors to William Jex & Co., importers of crude rubber and other Central American products, the house of Jex having been long established. Three years later, William A. De Long retiring, the firm of Otto G. Mayer & Co. was established, continuing in the rubber trade until 1902, when it was liquidated. After spending two years in Europe for the benefit of his health, Mr. Mayer returned to New York and became connected with the firm of Ladenburg, Thalmann & Co. as manager of their Pyrites department. Mr. Mayer is survived by a widow at West Orange, New Jersey.

PIERRE T. BETTS, well known in the trade as a broker in crude India-rubber and Gutta percha, at No. 43 Murray street, New York, died at his home in New Jersey, on May 30, shortly after an attack of heart disease. He was born in 1859, in Brooklyn, New York, being the son of DeWitt Clinton Betts. An uncle James A. Betts, was for many years engaged in the rubber brokerage business, which may have

influenced his nephew in the choice of a career. Pierre Betts, about 1886, entered the house of Robert Soltau & Co. (New York), a German house engaged in handling crude rubber and gutta, and also the manufacture of Gutta-percha tissue. In time, after the death of Mr. Soltau, he became manager of the house. In 1901 Mr. Betts engaged in business on his own account, as broker and commission merchant in the commodities above mentioned. He was successful in business, and his many admirable qualities gained a large circle of friends. About 14 years ago Mr. Betts married Miss Annie E. Teets, of Connecticut, who survives him. Mr. Betts was a brother of Mr. William C. Betts, of the New York Commercial Co.

CRUDE RUBBER AND PLANTING.

THE Inca Rubber Trading Co., incorporated under the laws of Maine, May 29, 1906, with \$5,000,000 capital authorized, is the company referred to in a preliminary prospectus reviewed in THE INDIA RUBBER WORLD, February 1, 1906 (page 143). The purpose is to consolidate certain rubber exploiting interests in Peru.

Mexican Crude Rubber Co. is the name of a company organized, with \$300,000 capital, at Detroit, Michigan, to extract rubber from the Guayule plant in Mexico. Ralph M. Dyar is president; W. C. McGraw, vice president; H. C. Bennett, secretary, and Walter E. Parker, general manager, and other Detroit business men are interested.

The Castilloa Planters' Co., Rochester, N. Y., was incorporated June 6, 1906, under the laws of New York, with \$25,000 capital, Percy E. Snell, Gilbert F. Crump, and Owen E. Jones.

The United States Gold Dredging and Rubber Co. (Jersey City, New Jersey), in a prospectus dated May 10, in addition to gold dredging, points out the profits possible from rubber planting, in the province of Esmeraldas, Ecuador, to which it is proposed to devote \$50,000.

LITERATURE OF INDIA-RUBBER.

A COMPILATION OF NOTES ON INDIA-RUBBER AND GUTTA PERCHA. Department of the Interior—Bureau of Forestry. Bulletin No. 3. Manila Bureau of Printing. 1906. [Svo. Pp. 46. map.]

THIS pamphlet has been compiled by Captain George P. Ahern, director of forestry in the Philippines, in answer to many requests from persons for information bearing upon rubber culture. The first page mentions the prices paid by Mr. John H. Cheever, a former leading manufacturer in New York for crude rubber, as compared with later prices. This, by the way, and more than a dozen other articles, are credited to THE INDIA RUBBER WORLD, besides which extracts appear from Mr. Pearson's "Crude Rubber and Compounding Ingredients."

IN CURRENT PERIODICALS.

ON the Life History of *Termes (Coptotermes) Gestroi*, Wasm. The *Hevea* Rubber Termite. By E. P. Stebbing. [Ants which attack the Pará rubber tree in the Far East.]—*The Indian Forester*, Allahabad. XXXII-3 (March, '06) Pp. 110-114

Standardizing Rubber Covered Wires and Cables. By John Langan. *Proceedings of the American Institute of Electrical Engineers*, New York. XXV-4 (April, '06). Pp. 189-202.

Paper versus Rubber Insulation for Electric Cables. By W. I. Tamlyn. [Relates to cables for three phase distribution.]—*Engineering News*, New York. LV-1 (Mar. 15 '06) P. 28.

A FLYING TRIP TO JAMAICA.

By the Editor of "The India Rubber World."

JAMAICA—peaceful, fertile, rich in cheap, free labor, and close to the United States through location and language, will some day, perhaps very soon, be an exporter of India-rubber gathered from annual crops. The beginning of experimental planting may be even be-



KINGSTON STREET, KINGSTON.

fore this article goes to press, hence the story of the island, briefly told.

I had long wished to visit it and see for myself how it sized up as a place for planting rubber. This wish was intensified when Professor N. L. Britton, director of the New York Botanical Gardens, leased the English tropical experiment station at Chincona, and assured a future for American botanical work in which rubber can hardly be ignored. I was more than glad, therefore, when my journeyings made it convenient for me to stop and have a look for myself. We left New York late in November on the *Sarnia*, which was crowded; so much so that one of our party, planning for my comfort, wrote a few days prior to the start:

"I have ordered the upper bunk in Stateroom 21 made up especially for you, with a delicate blue counterpane, with little pink ribbon bows on the pillows which I think will match up with your beautiful complexion very well."

Newspapers, however, have special privileges, particularly when the Editor knows the agent of the line, so I was able to secure a roomy cabin by myself, but alas, without the delicate colored counterpane and ribbon.

We got off in a snow squall and stopped for an hour in Gedney channel to ease up on a hot bearing, and then we put out to sea. It was not too rough to have the port holes open, although an occasional big wave slopped in. Our fellow passengers were a circus troupe on a two years' circuit around the world, via South American ports; some mining and lumbermen bound for Columbia, and a miscellaneous lot of tourists. One of the lumbermen confessed to owning a small plantation of *Castilloa* in Honduras, but was far from enthusiastic about it, as he could not keep the natives from stealing the rubber, poor though the yield was.

As we got further South it became warmer very rapidly and soon sweaters and heavy suits were laid aside. At Fortune Island we took a lot of Jamaica negroes aboard, and one evening they came to the promenade deck and gave a concert. It was very darkeyish, but not half so musical as what the American plantation negroes do. Off the coast of Cuba the temperature on deck was 88 and in my cabin, 98. It is unnecessary to state where I spent most of my time.

Now just a word concerning the place we were to visit. The island of Jamaica was discovered in 1494 by Christopher Columbus, who was very much taken by its beauty, and delighted with the politeness and good nature of the natives; so much did he and his followers appreciate them that within a very few years they had robbed them of all they had and practically exterminated them. The island, by the way, was not known as Jamaica in those days, but as Chab-makia, from two Indian words meaning wood and water, or in the thought of the Indian, "watered by shaded rivulets." The Spanish softened the word to Chamakia, and in turn the English made it Jamaica.

In 1654 the English captured the island and began to colonize it. For many years they sent their convicts there to work for the planters, but in 1689 the labor situation was such that the government recognized slavery, and for a time all was peaceful. There were several revolts, however, on the part of the slaves, one occurring in 1760, when 60 planters were killed and half a million dollars' worth of



COUNTY NEGROES.

property destroyed. The rebels were finally subdued, and as a warning, one of the ringleaders was burned at the stake and two others were put in iron cages and allowed to slowly starve to death. In 1834 the British government insisting that the slaves be freed, arranged an apprentice system for the 311,000 slaves, by which laborers in the field were to work for six years more and then be free; while domestic laborers were to work four years more. The crown also paid \$30,000,000 indemnity to the owners. After being freed the slaves became English subjects with all their



BOG WALK.

rights, and it is only fair to the black race to say that they have progressed remarkably; as well, perhaps, as whites would have done under the same circumstances. To show the proportion of whites and blacks on the island, there were at the last census 14,692 whites, 121,955 colored people, 488,624 blacks and 14,000 East Indians, Chinese, etc.

The "Jamaica nigger" at home is not a very hard worker, but he is good natured, self respecting, and in many cases thrifty. The island does not afford enough work for him, and so they are to be found all up and down the coast of Central America, where they are very proud of the fact that they speak English and that they are free men.

It is doubtless a surprise to many people when they discover how far south Jamaica really is. The island lies directly opposite Cape Gracias a Dios on the Mosquito coast of Nicaragua, and it is so situated that when the Panama canal is finished it will be a most important strategic point. The chief business of the island is planting sugar, coffee, bananas, etc. The natives work as a rule from seven in the morning until four in the afternoon, with an hour out for noon breakfast. They rarely work Saturdays. The average pay for field labor is 50 cents a day. The island, although only 144 miles long and 49 miles wide, has a climate varying from tropical to temperate. The mean rainfall for the whole island annually is 66 inches. The northeastern end, however, has an area where the rainfall is 100 inches and over, and northwest of this there is quite a tract where it is from 75 to 95 inches. The western central portion has a large area that runs from 75 to 95 inches, while all along the coast and a strip through the middle of the island, there is only 40 to 50 inches, and in places 30 to 35. It will thus

be seen that the planter can get almost any rainfall his crops may need. The island is of volcanic origin and indeed, has been, within the memory of man, visited by severe earthquakes. The formation is coral, white and yellow limestone, and in some places, trap rock. In the river valleys there are some quite rich alluvial areas where excellent crops are produced. There are many thousands of acres of crown lands not yet taken up, which are disposed of to settlers under exceedingly favorable terms.

Very early in the morning we passed the old Spanish fort at Port Royal, entered the harbor, and at seven o'clock were tied up at the pier in Kingston. The wharf was crowded with ebony-colored "Englishmen," who bore themselves with much dignity. Pushing through them we made our way to the Myrtle Bank Hotel where a good breakfast was discussed, and then we did the town; that is, until the sun got a bit too hot for walking. As I wanted to get all the official information possible, we looked up the Department of Agriculture. In a short time we were furnished by the very capable secretary, with maps, rain charts, reports and practical information that told pretty nearly all we wished to know. The officials were most prompt and polite and

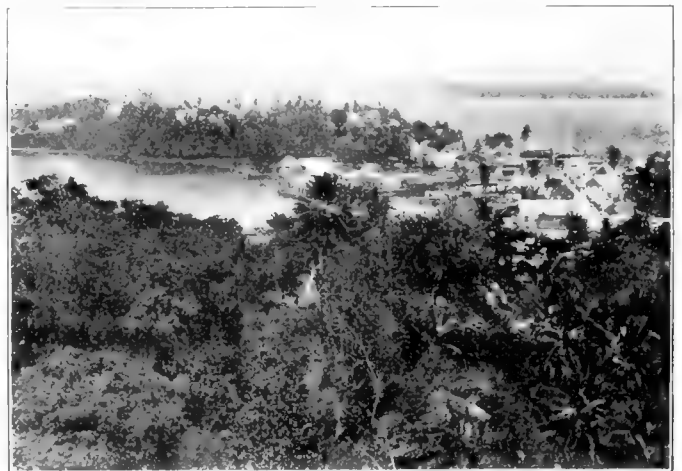
really saved us days of hard work in what they furnished us.

The printed matter was good, but we wanted to see rubber growing, and therefore took the nineteen-mile trip to Castleton Gardens. These gardens, established some forty years ago in what was supposed to be a sheltered valley, would, if more money were spent upon them, be of great value to the whole of the West Indies. The average temperature at the gardens is 76 Fah. and the rainfall 114.07 inches, annually. The first ten miles of the journey was by

excellent trolley cars, and gave us a fine chance to view the country. The product most abundant was of course the



ENTRANCE TO HOPE BOTANICAL GARDENS.



PORT ANTONIO.



SUGAR CANE FIELD.

banana, grown in big and little lots for the United Fruit Company. At the end of the trolley line was the Constant Spring Hotel, where we secured carriages for the rest of the journey. The way was hilly, but the roads good, and the soil although not apparently rich, seemed, under the influence of the sun and the abundant rainfall, to be very productive.

The gardens were in a measure a disappointment, as they are not large, and have a neglected look, except in parts. This is due to lack of money and not lack of interest on the part of the caretakers, the whole appropriation for the upkeep being \$15, gold, a week. Unfortunately when the first real experiments in rubber culture in Jamaica were undertaken, the Ceará tree was selected as the best fitted for that climate. As far as can be learned, the tree behaved exactly as it did in Ceylon, grew vigorously, but as a latex producer was a disappointment.

There were several specimens of *Ficus elastica* and *Landolphia*s as well as some fairly good *Castilloas*. The rubber trees that gave the most promise, however, were *Hevea Spruceana* and the *Hevea Brasiliensis*. The *Spruceana* was particularly thrifty and gave out latex abundantly. The rubber from it was of a light yellow color and very tough. The trees that we saw were only a remnant of a fine lot, most of which were destroyed by a hurricane that swept the island some little time before. Our guide, by the way, who was a negro foreman at the garden, knew the botanical names of all of the plants, and was indeed better posted than any white man that we saw out there.

The elevation of the gardens is 370 feet, and there seemed to be plenty of land thereabouts that could be utilized for *Hevea* growing. As labor (negro) is very plentiful, and the daily wage 50 cents, and as in addition the laws are as good as anywhere in the North—given no more hurricanes—it would look as if rubber might be made to pay. The soil, as already remarked, is in this part of the island, poor, but royal palms, cocoanuts, ceiba trees, indeed all of the ordi-

nary growths of the tropics were in evidence. In addition to this, a few miles took one up in the mountains to almost any climate that one could choose, a valuable adjunct to a tropical plantation operated by a white man.

About six miles from Kingston are the Hope Gardens which are both for botanical specimens and great nurseries. Here are 212 acres, the elevation being 600 to 700 feet. The annual rainfall is 54.21 inches and the average temperature 77.2°F. Of the rubber trees that are growing in these gardens only the *Hevea* and the *Castilloa* are conspicuous. The former does not seem to do well at all, as it is spindling in its growth and far from vigorous. This is undoubtedly due to the comparative dryness of the atmosphere. The *Castilloa*, however, showed a fine growth, due no doubt to the fact that it was irrigated. If its vigorous growth means added latex, it opens up a new field for the planting of this tree where there is small rainfall but plenty of water for surface work.

It may not be generally known, but Jamaica has its own

rubber producer, a climbing shrub known as the Milk Withe. Its botanical name is *Forsteronia floribunda* (G. Don) and its stem yields a rubber that as long ago as 1891 was valued in England at 79 cents a pound. That does not mean necessarily that the product is equal to fine Pará, although it brought the Pará price, for the samples were very dry and showed but little shrinkage. It is a fact, however, that it was a good grade of rubber and if the reports of the first shippers are accurate, the latex is very rich in Caoutchouc.

To go back a little, the plant is a climbing vine or liane, and grows only in the woods in the interior, chiefly in Manchester and St. Elizabeth counties. The best manner of coagulating was found to be the simple application of heat. So far, it has never been exploited commercially, nor is it known whether or not the vine is susceptible of cultivation.



COCONUT PALMS.



CASTLETON GARDENS.



CASTILLOA ELASTICA IN HOPE GARDENS. (TREE 3 YEARS AND 6 MONTHS OLD.)

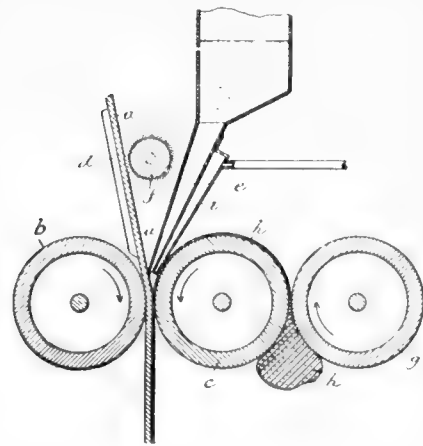
Reverting again to the *Castilloa*, there is said to be one plantation of some 3000 trees at the western end of the island, but it is carefully guarded and information refused to all.

I have not touched upon the varied delights of Jamaica to the winter tourist, nor described the many minor adventures that three Americans off for a holiday are sure to discover, for this after all, is not a holiday tale. It is rather a suggestion to Americans and English, that Jamaica is a good place in which to "get busy" on the short crop proposition.

COATING LEATHER WITH RUBBER.

BY a recently patented process and apparatus it is believed by the inventor that a solution of the problem, how successfully to apply a coating of rubber to leather, has been found. The sheet of leather to be coated passes over a guide against which presses a rotary wire brush. This brush revolves with great rapidity, and in so doing raises a

nap on the surface of the leather to which the rubber is to be applied. The leather is then passed on between two rolls, one of which is a bed roll heated to a temperature of 100° F., and the other, the pressure roll, with a temperature of 300°. Above the bite of these rolls is a receptacle



filled with thin unvulcanized rubber. A funnel shaped nozzle conveys the rubber to the face of the leather and distributes it smoothly

and evenly over the surface, where it embeds itself in the nap which has been raised by the brush before the fibers are subjected to the pressure of the rolls. In close proximity to and coöperating with the pressure roll is a third roll, also carrying a temperature of 300°. Between these two rolls passes a film of unvulcanized rubber which is drawn from a plastic mass beneath them. The film is conveyed over the center roll and between that and the bed roll it is pressed against the already rubberized surface of the leather, the first coating acting as a cement. The two coatings of rubber adhere firmly to each other and form a layer which is afterward vulcanized. When the rubber coating is vulcanized it is practically inseparable from the leather, as the fibers of the leather are firmly embedded in the vulcanized rubber layer. The patentee is Joseph J. Steinharter, of Philadelphia.

TWO NEW TAPPING TOOLS.

A GREAT variety of tapping tools have been designed and "tried out" by individuals interested in rubber planting in Mexico and Central America. The illustration shows two types designed for tapping the *Castilloa*. The straight bladed knife is one that is used successfully in Nicaragua, where planters are able to control their workmen

and teach them to use something beside the machete. In Panama, for example, where wild trees are tapped it has so far been found impracticable because the workers complain that it hurts the hand. This is explainable when one understands that the knife is placed against the porous bark and struck a smart blow with the heel of the hand, driving it through the lactiferous tubes. The knife is theoretically perfect, as it is impossible to injure the wood by its use and it secures a good flow of milk.



The curved knife also shown in the il-

lustration is the invention of Mr. Elliott Durand, who is already using it successfully on his Mexican plantation, "Cascajal." It comes so near to the machete that the natives like it and the little guard on the blade makes it easily adjustable for plantation work where the trees tapped run in regular sizes and where the thickness of the bark shows but little variation.

HAROLD W. FRENCH, Akron representative of George A. Alden & Co., and the New York Commercial Co., has an attractive sample room, with an excellent arrangement of his crude rubber samples, nearly 200 in number.

NEW GOODS AND SPECIALTIES IN RUBBER.

THE G & J TIRE STRAPS

THREE excellent emergency straps for temporarily repairing bursted or punctured tires are put out by the G & J Tire Co. The first of these is the Repair Strap shown in the illustration. It is made of heavy canvas, $2\frac{1}{4}$ inches wide, and covered with a coating of rubber.



One end of the strap is buckled to a spoke and the remainder tightly wrapped around the tire, making seven to eleven turns according to the size

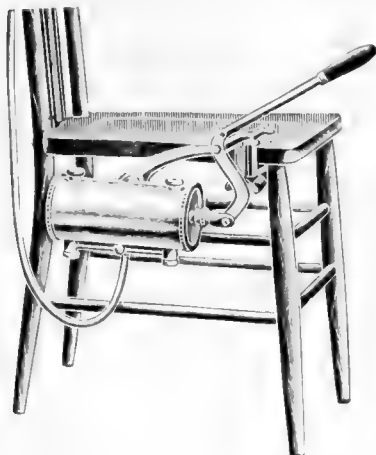
of the tire, and the end securely buckled to another spoke. The outside tire sleeve is another good device. It is made in one piece, of thicker canvas and rubber than in the repair strap. It has eyelets and lacings and is made in several sizes to fit tires of various types. The third of the series is called the G & J inside tire sleeve. This is a belt of soft rubber. Its function is to mend a bad rent in the tire until the car can be run to a shop where permanent repairs can be made. It serves its purpose better when used in connection with one of the devices above described. [G & J Tire Co., Indianapolis, Indiana.]

CLOTH LINED WATER BOTTLE.

THE "Wearever" is the very suggestive name given to the cloth lined water bottle that is high in popular favor at the present time. It may be had with or without the "holdfast" attachments and with smooth or ribbed surface. It is light and at the same time strong, a combination that is as desirable as it is rare. The colors in which it comes are maroon, non-blooming and white. Syringes with tubing to match and combination water bottle and fountain syringe with rapid flow attachment are also specialties in this line of goods. [The Faultless Rubber Co., Akron, Ohio.]

AN INGENUOUS AIR PUMP.

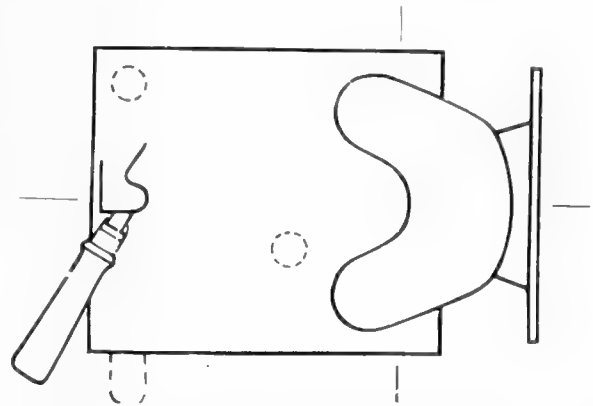
A DESCRIPTION has sometime appeared in this department of the Evans vacuum cap, designed for the stimulation of the circulation of the blood under the scalp by means of creating a vacuum under an airtight fitting helmet. An ingenious air pump is used in connection with forming the vacuum, the same being attached to the chair in a position convenient for its working by the person taking the treatment, and we have thought it worth while to present an illustration of this feature, as a matter of interest, perhaps, to



others requiring a simple and convenient air pump. [Evans Vacuum Cap Co., Fullerton building, St. Louis.]

RUBBER STAMPS IN DRAFTING WORK.

WITH the improvements constantly being made in the construction of rubber stamps, they are all the while finding new uses. One which has not been referred to before in these pages relates to their application to work in drafting rooms. It often happens that many copies of a single detail in mechanical drawings, or in architectural work, are required, and the time and expense involved in making duplicates by hand are avoided by having a rubber stamp made



RUBBER STAMP FOR MECHANICAL DRAWING.

of the feature which is to be repeated a number of times. It may be that part of a drawing will need to be repeated many times, while additional details will have to be made separately in each case. When this occurs, it may prove economical to have the part which is to be often repeated made in the form of a rubber stamp. Such stamps have been made extensively for mechanical concerns and for the United States navy by T. S. Buck Manufacturing Co., New York.

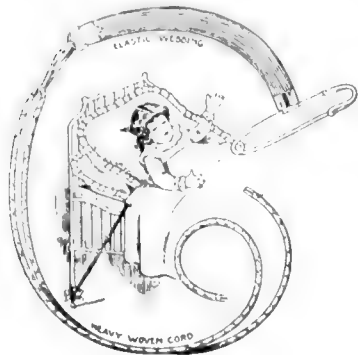
A GERMAN RUBBER TIRE TREAD.

OF the many tire treads that are designed to prevent skidding, one that is illustrated here deserves special mention because of its undeniable merit, and, again, because it is made of rubber and is really a part of the tire itself. The Calmont tread is rigid, yet pliable; resilient, yet durable. In design it is neat and slightly. As a preventive of punctures it is claimed that this tread is one of the most efficacious in the market. It may be made as a part of the tire, or as a separate band and vulcanized on the outside of any rubber tire. [Asbest- und Gummiwerke Alfred Calmont, Act.-Ges., Hamburg, Germany.]



THE "EUREKA" BED CLOTHES FASTENER.

Few simple inventions promise more in the way of genuine helpfulness in the household than the "Eureka" Bed Clothes Fastener. For weary mothers who have been in the



habit of watching the crib lest the baby be uncovered, its use means sleep, with all care removed; for the nurse it means a sense of safety, for the patient is in no danger of exposure to drafts, and to the child or invalid it means comfort. The pins, which are fastened to the upper bed clothes only, allow ample room for all thick-

ness of the coverings, and the elastic band gives perfect freedom of movement. Another feature that lends itself to consideration is found in the readiness with which it can be detached, the spring between the elastic and the cord making this possible. The use of the two fasteners precludes all possibility of any dragging of the bed clothing on either side. [The Hospital Supply Co., No. 35 East Twentieth Street, New York.]

TROUSER CREASE OF RUBBER.

To the fastidiously dressed gentleman nothing is of greater importance than the well defined crease in his trousers. This necessitates frequent pressing and oftentimes attendant discomfort. The "Indestructible Crease," made of rubber, is the invention of a commercial traveler, who relates an experience of having to sit, minus trousers, in a tailor's back room while the only pair he had with him was being pressed, and from that episode dates the conception of this adjunct of a gentleman's wardrobe. It holds the crease firmly, as originally made, as long as the trousers last and prevents, to a great extent, the unseemly bagging at the knees. The cost is very slight, and the simplicity with which a permanent crease is affected makes one wonder why the little device has been so long in making its appearance. [John Emison, No. 15 Cornelia street, Brooklyn, N. Y.]

GALWAY SURGICAL OPERATING PADS.

A DISTINCTIVE feature of the surgical operating pad shown in the illustration is the back rest, which is so stayed as to support the heaviest patient without collapsing. It can be filled with either air or hot water, the latter proving very comfortable to patients and at times of very decided value.



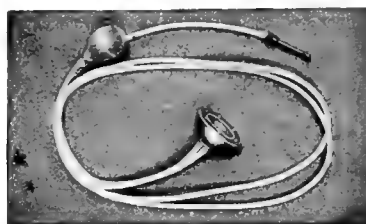
Irrigation or douching by means of this pad can be done with special ease and comfort to the patient. Perfect drainage and cleansing are provided for, together with ample operating room at tip of rims, and there is no crease where the bottom joins the rims. [The B. F. Goodrich Co., Akron, Ohio.]

LEADER CONVEYING TABLE.

THE Leader conveying table is an ingenious and thoroughly practical device for expediting the neck labeling, capping, and tin foiling of bottles, but may be made equally applicable to many other uses. It brings the work directly in front of the operators, who are arranged on one or both sides of the table. This operation greatly facilitates handling and cheapens the process materially. The table is of the ordinary shop variety and may be made in any desirable length. A mechanism of simple arrangement carries the wide rubber belt from one end of the table to the other and the bottles, cans, boxes or whatever goods are being handled are carried to the operators, who do not have to leave their places at the table or even reach for the pieces or push them aside. [The Bottlers' Machine Co., No. 89 Beach street, Boston.]

"YLD R" PNEUMATIC SYRINGE.

THE practicability of the employment of pneumatic force in syringes has been successfully demonstrated in the "Yldr" Pneumatic Syringe, which has recently been placed on the market. This is the outcome of the study of the



simplest and most efficient methods of raising liquids and has marked advantages over the suction principle. A lighter and larger bulb may be used in operation,

which is immediately refilled after release, and the ability to raise liquids to a considerable height is also obtained in its use. These features alone insure its popularity, while the expedition with which the liquid may be discharged comes in for its share of consideration. [Cleveland Rubber Works of the Mechanical Rubber Co., Cleveland, Ohio.]

HOLLOW RUBBER CASTING FROGS.

EVERY devotee of the rod and line—with the possible exception of the one to prove the rule—finds keener satisfaction in his favorite pastime when using the hollow rubber casting frogs and frog harness with single or double Carlisle hooks. To J. T. Hastings & Co., Chicago, who manufacture this innocent looking little device, the thanks of many sportsmen have been extended, for with rubber frog castings, "fisherman's luck" is not so apt to be put in the classification of "other uncertain things." The summer sport in which so large a proportion of the vacationists indulge, will be greatly enhanced by the use of the frog and its popularity is sure to advance appreciably with the advancing season.

HARLAN'S BATH AND COMPLEXION BRUSH.

A UNIQUE and useful rubber toilet accessory is a new and excellent bath brush. It possesses various beneficial qualities, and especially from a sanitary standpoint, for it arrests declining energy by invigorating the circulation. By gently rubbing with the brush it imparts to the skin softness and smoothness, and produces a healthy glow. It is also recommended as a complexion improver and beautifier. The pores of the skin are cleansed and the skin itself becomes pliable and healthy. Roughening, thickening, and sallowness of the skin are averted by the use of this brush. [The Harlan Manufacturing Co., Toledo, Ohio.]

RECENT RUBBER PATENTS.

UNITED STATES OF AMERICA.

ISSUED MAY 1, 1906.

- N**O 819,036. Cushion tire. F. M. Ashley, New York city.
 819,112. Dish cleaning apparatus [with hose connection]. R. Wylie, Napa, Cal.
 819,156. Appliance for putting tires on the rims of vehicles. L. G. Morrill, Norwood, Mass.
 819,204. Fountain pen. H. B. Levy, New York city.
 819,330. Hypodermic syringe. O. A. Yeaza, Guatemala, Guatemala.
 819,374. Elastic tire for road wheels. E. C. F. Otto, London, assignor of one-half to G. F. Richardson, Lee, England.
 819,387. Pneumatic tire. C. R. Twitchell, assignor of one half to J. M. Brennan, both of Los Angeles, Cal.
 819,452. Pneumatic cushion. V. H. Podstata, Dunning, Ill.
 819,459. Applicator for mechanical massage. C. H. Richwood, Boston, Mass.
 819,503. Tire for vehicle wheels. V. E. Belledin, Paris, France.
 819,529. Vulcanized material and process for making the same. F. Ephraim, San Francisco. [Process intended for Guayule and other like plants.]

Trade Marks.

- 5,095. Rubber boots, shoes and galoshes. Ostasiatische Handels-Gesellschaft, Hamburg, Germany. *Essential feature.*—The representation of a porter carrying on his shoulders a yoke, to which, on both sides, several boxes are fastened by means of ropes, such representation being shown in a rectangular frame having scroll work in the corners.
 5,159. Hard rubber syringes. American Hard Rubber Co., New York city. *Essential feature.*—The words ROYAL EXCELSIOR.
 5,165. Soft rubber bulb and fountain syringes. *Same.* *Essential feature.*—The word CROWN.

ISSUED MAY 8, 1906.

- 819,719. Fountain pen. F. C. Brown, New York city.
 819,845. Shoe [with elastic heel cushion]. H. F. Browne Swampscott, Mass.
 819,852. Swimming glove. M. S. Christopher, Survey, Fla.
 819,900. Golf club, having a flexible cushion. C. E. R. Martin, Newark, N. J.
 819,903. Mattress. F. Maussner, Philadelphia.
 820,017. Physical exercising device. I. O. Russell, assignor to J. T. Horn, both of Indianapolis, Ind.
 820,033. Securing device for rubber shoes. C. A. Woollen, assignor of one-half to E. W. Bareuther, both of Mattoon, Ill.
 820,045. Dental vulcanizer. E. A. Gudex, Milwaukee, Wis.
 820,067. Pocket ash receptacle. L. D. Richardson, Fredericksburg, Va.
 820,077. Vehicle wheel. G. S. Whiteley, Baltimore, Md.
 820,104. Pneumatic tire. P. W. Fawcett and E. L. W. Bellhouse, Sheffield, England.

Trade Marks.

- 5,162. Hard rubber battery cells. American Hard Rubber Co., New York city. *Essential feature.*—The word symbol VOLCAN.
 15,011. Rubber packing, rubber gaskets, rubber disks, rubber rings, and rubber washers. A. B. Jenkins, New York city. *Essential feature.*—The facsimile signature JENKINS BROS., in the handwriting of A. B. Jenkins.
 16,918. Rubber covered electrical wire. J. A. Roebling's Sons Co., Trenton, N. J. *Essential feature.*—A helically arranged red thread or strand woven into the covering of the wire.
 17,953. Dress shields. I. B. Kleinert Rubber Co., New York city. *Essential feature.*—The fanciful word LINGERIE.
 18,406. Rubber boots and shoes. Hood Rubber Co., Boston. *Essential feature.*—The representation of a bow and two arrows crossing the same.

ISSUED MAY 15, 1906.

- 820,437. Hose or pipe coupling. J. Pehrson, Willowbrook, assignor to I. T. Avelsgard, Yorkton, Canada.
 820,668. Nozzle for street flushing. C. K. Pickles, St. Louis, Mo.
 820,673. Tire for vehicles. T. C. Sanderson, West New Brighton, N. Y.

- 820,679. Bulb attachment for bottles. H. B. Studley, Corona, N. Y.
 820,691. Traction attachment for automobile wheels.
 820,738. Tire for vehicles. T. S. Sanderson, West New Brighton, N. Y.

Reviews.

- 12,483. Interlocking tile for floor or wall coverings. A. W. Nilsson, New York city.
 820,110. Means for repairing punctures in pneumatic tires. H. Harrison, Erdington, England.
 820,221. Tiling. L. F. Lindley, Chicago.
 820,232. Horseshoe [with recesses for elastic cushion]. B. Messenger and A. Messenger, Philadelphia.
 820,296. Method of making armored tires. V. Gallien, assignor to Société Anonyme des Pneumatiques Cuir "Samson," Paris, France.
 820,328. Hose nozzle. C. S. Alderman, St. Louis.

Trade Marks.

- 2,633. Dress shields. The Kora Co., New York city. *Essential feature.*—The word KORA.
 6,394. Rubber boots and rubber shoes. Goodyear Rubber Co., New York city. *Essential feature.*—The representation of a gold seal bearing the name of the applicant, GOODYEAR RUBBER CO., and the words and figures GOLD SEAL 1872.
 7,782. Rubber boots and shoes of all kinds. Rice & Hutchins, Inc., Boston, assignor to Rice and Hutchins, Inc. *Essential feature.*—The word EDUCATOR.

ISSUED MAY 22, 1906.

- 820,972. Bathing corset. K. Hatch, New York city.
 821,041. Repair plug for pneumatic tires. R. P. Kinney, Cleveland, Ohio.
 821,066. Manufacturing rubber nipples and the like. E. J. Sonn, Brooklyn, N. Y.
 821,121. Conveyor belt. G. C. Plummer, Philadelphia.
 821,180. Electric massage and vibrator machine. S. W. Moon, assignor to Horto Electric Co., Chicago.
 821,259. Douche apparatus. C. P. T. Roux, Niort, France.
 821,354. Inhaling apparatus. T. H. Gebauer, Cleveland, Ohio.
 821,389. Medicine distributor having a compressible bulb. C. L. Wells, St. Paul, Minn.
 821,530. Horseshoe. G. B. Paul, Clinton, Mo.

Trade Marks.

791. Automobile tires and tire treads. C. J. Bailey, Boston, Mass. *Essential feature.*—A cross sectional view of a tire, surrounding the words BAILEY'S WON'T SLIP AUTOMOBILE TIRES.
 8,065. India rubber pencil erasers. L. & C. Hardtmuth, Vienna and London. *Essential feature.*—The letter H two stars and a circle surrounding the letter H and the stars.
 8,248. India-rubber and Gutta-percha pouches and receptacles for holding tobacco. Adolph Frankau & Co., Ltd., London. *Essential feature.*—The letters B B B.
 10,087. Rubber boots, shoes, and overshoes. M. D. Wells Co., Chicago. *Essential feature.*—The representation of a child having her arm about a dog's neck, together with the words BEST ON EARTH, the figures and words being arranged on a background representing the earth.
 14,598. Rubber packing. Peerless Rubber Mfg. Co., New York city. *Essential feature.*—The letter P enclosed in a diamond-shaped outline figure.
 14,599. Rubber packing. *Same.* *Essential feature.*—The word PEERLESS.
 16,603. Rubber belting. Carolina Supply Co., Greenville, S. C. *Essential feature.*—The word SQUARE DEAL.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each, postpaid.]

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1904.

* Denotes Patents for American Inventions

[ABSTRACTED IN THE OFFICIAL JOURNAL MAY 2, 1904.]

- 44 (1905). Golf. [Teeing ground covered with a corrugated rubber mat.] W. F. King, Bournemouth, Hampshire.
 * 54 (1905). Elastic tire. C. W. Faitoute, Summit, New Jersey.

- 174 (1905). Heel protector. A. Mallaby, Bradford, Yorkshire.
 226 (1905). Feeding appliance for animals [comprising sucking tubes or teats]. I. K. Rogers, Bath, Somerset.
 285 (1905). Means for securing rubber hoofpad in position on a horseshoe. R. P. Gray, Birmingham.
 290 (1905). Elastic tire. J. Richardson, South Park, Lincoln.
 298 (1905). Pneumatic tire. [The outer cover has an inner flap connected to one edge, which overlaps the edge of an intermediate cover of rubber.] R. W. Ferguson, West Orange, New Jersey.

[ABSTRACTED IN THE OFFICIAL JOURNAL, MAY 1, 1906.]

- 330 (1905). India-rubber. [Rubber milk is coagulated in a rotary cylinder.] R. C. Thomson, Glasgow. (D. K. Michie, Colombo, and G. H. Gollidge, Niboda, Ceylon.)
 *420 (1905). Horseshoe. H. Bartley, Pittsburgh, Pennsylvania.
 486 (1905). Means for securing a rim, carrying a pneumatic tire, to the felloe of a wheel. C. B. Cave, Chesham Bois, Buckinghamshire.
 554 (1905). Inhaler for administering anaesthetics. J. E. Arnold, London.

[ABSTRACTED IN THE OFFICIAL JOURNAL, MAY 11, 1906.]

- 826 (1905). Golf tee [made of rubber, having a colored tassel attached thereto to indicate any flight of the same]. E. H. Taylor, Plaxtol rectory, Sevenoaks, Kent.
 *838 (1905). Respirator. A. G. Brooks, London. (D. Craig, Boston, Massachusetts.)
 841 (1905). Pump for inflating pneumatic tires. A. A. Withers, Melbourne, Victoria.
 *867 (1905). Pneumatic tire [formed with side flanges and a thickened central portion of the base fits on a flat rim provided with grooves]. P. E. Doolittle, Toronto, Ontario.
 *868 (1905). Fountain pen. R. A. Hamilton, W. Irvine, and J. P. Lein, New York.
 981 (1905). Elastic tire [having blocks of wood arranged so as to support blocks of India-rubber arranged between side flanges]. T. Gare, New Brighton, Cheshire.
 1,085 (1905). Elastic tire. H. Torley, Oberkaufungen, near Kassel, Germany.
 1107 (1905). Device for preventing side slip. [Consists of prongs working in guides formed in rings secured to the wheel]. F. Ripley, Hanly Castle, and C. T. Santler, Malvern Link, Worcestershire.
 1125 (1905). Horseshoe [provided with a metal plate to prevent the rubber pad from being pressed into the hoof and also to protect the hoof from nails and glass]. A. Förster, Heudeber, near Halberstadt, Germany.
 1155 (1905). Football boot. R. J. G. Smithson, Sunderland.
 1206 (1905). Pneumatic tire. [To prevent slipping wedge shoes are secured to the rim.] P. G. Hedges, London.

[ABSTRACTED IN THE OFFICIAL JOURNAL, MAY 23, 1906.]

- 1203 (1905). Heel protector. J. B. McCubbin, Victoria, Australia.
 *1322 (1905). Cover for pneumatic tire [composed of leather]. F. W. Howorth, London. (R. Healy, Brooklyn, New York.)
 1345 (1905). Means for forcing rubber tires into the metal rims of carriage wheels. C. H. Dyche and F. Pym, Cookham, Berkshire.
 *1390 (1905). Vehicle wheel. [For securing an elastic tire to a rim the tire is molded around perforated securing plates attached to the rim]. P. A. Newton, London. (Noiseless Car and Car Wheel Co., New York.)
 1409 (1905). Cow milker [having soft rubber coverings]. B. Ljungstrom and F. Ljungstrom, Stockholm, Sweden.
 1412 (1905). Heel protector. J. E. Davidson, Toronto, Canada.
 1477 (1905). Puncture preventing device for pneumatic tire [consisting of a flattened band of steel formed with beaded edges]. H. J. Edis, London.
 *1550 (1905). Elastic fabric [made of metal shavings and rubber for use in making mats]. F. G. Walker, Liverpool. (C. H. Prindville, Chicago, Illinois.)
 1601 (1905). Means for attaching tires to rims of wheels. H. Spurrier, Leyland, Lancashire.
 1608 (1905). Pneumatic tire [formed in sections and secured to the felloe by bolts and formed with hollowed ends which abut on inflation]. J. H. Hammond, C. T. Mason, and S. R. Brown, Leicester.
 1605 (1905). Means for preventing puncture and skidding of tires. G. J. Stevens, and W. E. Richards, London.

THE FRENCH REPUBLIC.

PATENTS ISSUED (WITH DATES OF APPLICATION.)

- 359,078 (Nov. 3, 1905). H. C. Tavernier. Tire and rim.
 359,095 (Nov. 3). J. C. Cole. Method of fastening tires.
 359,158 (Nov. 4). Buchillet et Cie. Skid tread.
 359,183 (Nov. 6). Lesage. Elastic material, and certain uses of it.
 359,243 (Nov. 8). W. E. Beasley. Elastic tire.
 359,256 (Nov. 9). Murphy & Manning. Protector for the head of tire.
 359,284 (Nov. 9). E. Ribeyre. Method of fastening tires.
 359,347 (Oct. 20). Lefebvre. Elastic tire.
 359,354 (Nov. 8). J. Butler. Pneumatic tire.
 359,357 (Nov. 10). G. F. de Nottbeck. Multiple inner tube.
 359,363 (Nov. 11). H. W. Southworth. Tire.
 359,404 (Nov. 13). M. Rossmann. Elastic tire.
 359,423 (Nov. 14). Foulloy. Skid tread.
 359,443 (Nov. 14). C. Nielsen. Device for inflating tires.
 359,506 (Nov. 16). C. H. Wilkinson. Anti skid tire.
 359,518 (Nov. 17). C. E. Julien. Pneumatic tire.
 359,539 (Sept. 4). Ouradon. Metallic pneumatic tire.
 359,551 (Nov. 6). Lante della Rovere. Tire protector.
 359,608 (Nov. 18). Société pour l'exploitation du Caoutchouc au Congo. Decorticating machine for rubber vines.
 359,572 (Nov. 17). Bondieu & Bessard. Pneumatic cushion wheel.
 359,636 (Jan. 28). Samson Leather Tire Co. Method of fastening leather protectors to tires.
 359,645 (Nov. 18). F. Canihot. Tire made of cork and leather.
 359,702 (Nov. 22). J. Bessonneau. Skid tread.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Bobet, Ingenieur-Conseil, 16 avenue de Villiers, Paris, at 50 cents each, postpaid.]

AMERICAN GOLF BALLS SAFE.

THERE has been some speculation as to what effect, if any, the recent adverse decision in a British court in the case of the Haskell Golf Ball Co. v. Hutchison, Main & Co., of Glasgow, would have on the golf ball trade in the United States. Under the terms of the decision, the Haskell patent is held to be invalid in Great Britain. But, of course, this could not have any direct bearing on the standing of the Haskell patent in America.

"The British decision in the golf ball case will not have any effect on the business in the United States," said the manager of this branch of A. G. Spalding & Bros.' business. "The Haskell patent is so tightly clinched in this country that nothing can disturb it. So many golf balls are made in this country, and they are sold at so low a price, that there has been no occasion to import them in any considerable quantity. Even in view of this British decision there is little likelihood that there will be any importations worth speaking about. If there was to be any increase in the amount of imports of golf balls it would be due to one of two things: because the foreign ball was better, or cheaper, than the domestic article. But neither of these conditions exists."

THE Kolonial-Handels-Adressbuch 1906—the tenth annual publication by the Kolonial Wirtsschaftlichen Komitee (Berlin)—is filled with information regarding trade conditions and general development in the German colonies, especially as promoted by the activity of the committee named, through which business men of prominence and the German government work conjointly for colonial development. A number of German rubber manufacturers are interested, and the directory of colonial enterprises embraces not a few rubber plantation companies. [8 vo. Pp. 266. Price, 1.50 mark.]

RUBBER TAPPING AND LARGE YIELDS IN CEYLON.

By Ivor Etherington (Colombo).

THE large yields of rubber produced by trees of *Hevea Brasiliensis* on some Ceylon rubber estates have caused no little surprise among rubber planters in other countries. Ceylon is ahead in the matter of cultivated rubber, and in this island enormous strides have been made during the last three years. The rubber tree, its cultivation, the methods of tapping, and the preparation of the raw article have been the subject of much experiment by numbers of planters as well as by the government scientific staff, so that it is not surprising that rapid advance has been made, that better methods of curing have been adopted, and more economical and scientific systems of tapping, and procuring larger yields of latex evolved. The turning out of machine-washed crêpe or lace rubber was not contemplated three or four years ago, when drying took a matter of some weeks. In the same way, a few years back, it was considered that the "Pará" tree could only be tapped during certain parts of the year, never when it was in the almost leafless or "wintering" stage, and wanted long periods of rest between tapping operations, while the yield of dry rubber obtained was small. To-day very different ideas hold among the majority of planters. Trees are not given such long rests as formerly, but tapping proceeds throughout the year; and larger yields are obtained in comparison with the amount of damage done to the tree.

The increased yields that have been obtained in Ceylon and the really marvelous yields obtained from some *Hevea* trees have occasioned no little surprise in Ceylon; it is therefore not strange that these results should be received with hesitation by planters of rubber in less favored parts of the world. Mr. Gordon Waldron, a rubber planter of experience in Central America, has thus challenged the truth of statements made by the present writer in THE INDIA RUBBER WORLD of January last. Mr. Waldron remarks [INDIA RUBBER WORLD March 1, page 180] that the statements referred to "are so wonderful and so important to the planting and manufacturing interests of the world as to be spurned or at once verified,

even at great expense." I will do my best to convince Mr. Waldron and other possibly justified unbelievers, of the truth of those statements. But Mr. Waldron must first recollect that these statements come from Ceylon and not from America, where "tall stories" are proverbial and everything remarkable is as a matter of course taken *cum grano salis*!

Ceylon estates are managed on very business like lines, and planters through years of tea planting, are accustomed to keeping very careful, accurate details of their plants, crops, and produce. In the case under reference a new system of tapping rubber trees was being worked out which took some years to evolve, and consequently all details were very strictly kept so as to be available for reference at any time. A planter in his estate report keeps account of what trees are tapped and the yield per day, and these results can always be verified by the visiting agent, and for the account in the January INDIA RUBBER WORLD the writer was privileged to go through the estate report very carefully and make certain extracts. The results obtained on that estate and others to be mentioned below, have been examined into by the government scientific staff members and have been accepted as correct.

But it is not only on company or private owned plantations that these large yields of rubber have been obtained. Astonishing results have been procured in the Ceylon government's Royal Botanic Gardens, at Peradeniya and Henaratgoda. These yields are vouched for by the Peradeniya scientific staff, men of the highest standing upon whose word not the slightest shadow of a doubt can be cast. The trees stand in the public garden always available for the public to see, and the daily yields when tapping is being done are most accurately kept. The yields of four of these trees are given below, and Mr. Gordon Waldron or any one else, can refer for further confirmation to the director of the botanic gardens or the controller of the experiment station, who personally carried out the work. These trees were "Brazil bred"; that is, they are some of the original plants imported into Ceylon via Kew Botanic



SPIRAL TAPPING OF "HEVEA BRASILIENSIS."

[Photograph by Mr. Etherington]

Gardens, London, from Brazil, and are about 30 years old.

The first set of four trees were tapped with large V cuts. The yield was 11 pounds 5 $\frac{1}{2}$ ounces, in 50 tappings, extending over the period from June 29 to September 18, and ranging from less than 1 ounce to 14 ounces in one day. Four other trees were tapped with long spiral cuts, running round but not completely encircling the trunk. These trees yielded 17 pounds 8 $\frac{3}{4}$ ounces rubber in 65 tappings, extending from June 16 to September 18, and ranging from under 1 ounce to 13 $\frac{3}{4}$ ounces in one day. That is an average of *4 pounds rubber per tree in three months.*

Mr. Herbert Wright, controller of the government experiment stations, an authority on rubber in Ceylon, has lately published an exhaustive work on rubber cultivation, entitled "*Hevea Brasiliensis or Pará Rubber*", and he says the yield in Ceylon varies "to a maximum of 25 pounds per tree in twelve months' tapping." As he is the recognized authority in Ceylon the Editor will allow me to give a few lines of quotations here. Mr. Wright further says:

In the Matale district there are estates where an average yield of $\frac{3}{4}$ of a pound of dry rubber, per tree, from 5000 trees has been obtained in one month's tapping. Another estate has obtained an average yield of 3 $\frac{1}{2}$ pounds dry rubber per tree, from 311 trees in one year. The age of these trees varied from 10 to 15 years and the trees varied in circumference from 30 to 70 inches, at a yard from the ground. These trees were tapped on the full herring bone system; the tapping area covered half the tree and extended from the base to a height of 7 feet. The tapping was done very carefully, the distance of 7 feet being worked through in 240 days of continuous tapping. The yield from these particular trees will probably be *increased by a change in the method of tapping and tapping instruments* during the current year.

Here then it is seen that even these good yields are expected to be surpassed when the more modern tapping system is started (the italics are mine).

These results were obtained in plantations of medium elevation, while the results mentioned in the article in January INDIA RUBBER WORLD were from estates in the low country, practically at sea level, in the Southern province of Ceylon. Of another estate in this Southern province, Wright says:

An average of 2 pounds per tree from each of about 10,000 trees is expected during the current year. There are on this estate 4 old trees which have given 10 to 25 pounds of dry rubber, per tree in twelve months; the trees are perfectly healthy, have given a good crop of sound seed, and are now ready for further tapping.

Further exceptional yields were recorded some time ago on the famous Culloden estate in the Ceylon low country, where four large trees from 20 to 25 years of age (exact age unknown) gave respectively 10 pounds, 18 pounds, 23 pounds, and 25 pounds in 12 months. All these big yields are well authenticated in Ceylon. But it must be remembered that these very large yields are not over large acreages; they are regarded in Ceylon as very exceptional yields. It would be quite impossible to take any of these as averages; and there are no estates where these big trees yielding immense quantities of rubber are to be found in any number; but these results show what the *Hevea* tree *can* yield if properly tapped and if there is labor available to do the tapping. On Kepitigalla estate, described in the January INDIA RUBBER WORLD, a yield of 3 pounds per tree was got from some 10,000 trees planted through the cocoa, 8 to 15 years old, and tapped on the V system, not on the spiral or herring bone, which have accounted for the large yields recorded in the same article.

Mr. Gordon Waldron in his letter to THE INDIA RUBBER WORLD says: "I had thought that planted rubber was not likely to be felt in the markets for 25 years, and that with the gradual exhaustion of the wild rubber field and the rise of wages in the tropics, which is sure to come, a rubber famine was surely approaching." The exhaustion of wild rubber must not be counted on too freely by planters. There are large tracts in South America as yet hardly touched, and better methods of collecting and improved means of transport will no doubt encourage and improve the South American output and tend to stop the exhaustion. Your correspondent also seems to underestimate the extent of land being planted up with rubber in Ceylon, the Malay peninsula, southern India, Java, Borneo, etc. The exports of plantation rubber from the East are doubling annually, and in the words of Dr Willis, director of the Royal Botanic Gardens, Ceylon, "will in about 7 years' time, probably reach 10,000,000 to 15,000,000 pounds, and increase rapidly after that, in fifteen years from now probably exceeding the exports of Brazil."

The method of tapping used for *Hevea* may not be the correct one for economically obtaining the latex from the *Castilloa* tree, since the laticiferous systems of these two trees differ very greatly. Mr. Waldron states that in three essentials the Ceylon tapping described differs from his system: (1) frequency of tapping; (2) reopening of cuts; (3) pricking the wounds. On these three conditions depends the large yield referred to, and it is probable that such great yields can be obtained by no other tapping system yet practiced. But whether these systems can be worked successfully on the *Castilloa* tree remains to be seen, and extensive and careful experiments might well be carried out.

Tapping apparently does not harm the tree from the amount of latex drawn, but from the amount of cortex cut away; so that the finer the paring of bark removed, the better. If a large amount of latex is extracted by the removal of a very little bark, that system is economic, and in the paring and pricking methods in the spiral, and especially in the herring bone system this is the case. Owing to the difference in the laticiferous systems of *Hevea* and *Castilloa*, I believe a single cut in the latter drains a much larger area than in the *Hevea*, so that reparing or shaving the lower edge of the cut might not prove successful. The incisive method of extracting latex, as in pricking the wound, does not necessitate the removal of bark, and provided the spur tool used is handled carefully, so as not to damage the cambium, this seems an economic method; and in experiments in Ceylon which have shown capital results the pricker is used perhaps twice to each paring or shaving cut, so that an abundant flow of latex is obtained with a very slow removal of bark. An illustration accompanying these notes was specially made to show the appearance of a tree after it had been tapped on the paring and pricking system. The specimen shown is growing in the Ceylon Royal Botanic Gardens, is about 29 years old, about 80 feet in height and girthing over 80 inches at 3 feet from the ground. The tree was "resting" when the photograph was taken.

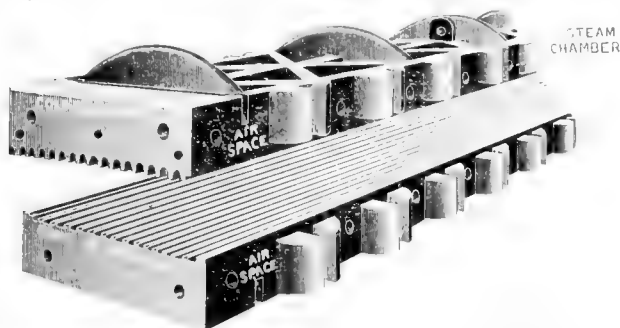
On page 80 of the March INDIA RUBBER WORLD appears a picture of "Overtapped Pará Rubber Trees" which is a striking illustration of how *not* to tap the *Hevea* tree, and

proof of the want of a systematic method such as the spiral or herring bone. The trunk always swells and increases rapidly in girth where tapped, so that a systematic tapping, to induce regular and systematic increase in girth, is advisable.

Mr. Waldron has apparently a large number of *Castilloa* trees at his disposal and could easily carry out a series of experiments with the various tapping systems, repairing and pricking, etc., keeping the results carefully. The publication of these would be very useful to rubber planters.

A SIMPLE TIRE VULCANIZER.

THE White steam tire vulcanizer is probably too well known to the trade to need much of a description here, though the Williams patent cooling chamber attachment for this vulcanizer is probably new to some of our readers. This vulcanizer will bake 15 tires at one run, the hollow-backed molds being heated to the required temperature by a jet of live steam let into the steam chamber in each half of the mold. As ordinarily used, one can make tires of any length, reeling them up to 500 feet or more, by baking a section at a time, uniting the uncured ends, or else by rolling out the plastic rubber in endless ropes, simply slipping through the mold after each cure. The ends could not be united, however, when one of the pieces had been vulcanized; so the White vulcanizer is now made with a cooling



WILLIAMS PATENT COOLING CHAMBER ATTACHMENT.

chamber at each end. The ends of the tires which lie between these coolers are not vulcanized, so that a true union can be made between these ends and the unvulcanized lengths to be at the next run. If only single lengths are desired, steam can be let into the cooling chambers also, making an entire vulcanizer. This vulcanizer is mainly used for buggy tires, is very simple and convenient, takes up little room, and prevents the great waste of steam which ordinarily occurs from emptying a converter every 30 or 40 minutes. [The Williams Foundry and Machine Co., Akron, Ohio.]

THE Rhode Island commissioner of industrial statistics presents comparative statistics of a number of factories for 1900 and 1904, including 4 rubber factories (not named, of course). These latter show practically no increase in the number of employes, but an increase in average yearly earnings from \$354.53 to \$423.44. The total value of output of the 4 factories increased by 7.9 per cent.

THE I. B. Kleinert Rubber Co. (New York) have appointed as their representative in Great Britain Mr. R. E. Wright, long identified with their European business, in succession to the late Mr. H. T. Hobart.

MR. A. D. THORNTON.

IN Curdworth, Warwickshire, England, in 1869, Mr. A. D. Thornton made his bow to the world. In 1893 he came to Canada bent upon success, shortly following which advent he was introduced to the rubber trade by Mr. H. C. Burton, now of New York, but then manager of the Alpha



Rubber Co., of Montreal, in which employ Mr. Thornton was engaged as a traveling salesman, selling druggists' sundries and mechanical rubber goods. In 1896 the Alpha company became absorbed by the Canadian Rubber Co., of Montreal, whose general manager then was Mr. J. J. McGill. With this transfer of business went Mr. Thornton, and very soon fol-

lowing this, he was assigned to the mill where he installed a chemical laboratory, which was exclusively operated by him for two years, during which he constantly made analyses of the 300 odd compounds then operated by the company, personally superintending the mixing of all these during that period. This was the foundation of Mr. Thornton's education in the depths of the rubber interest, which has made him a recognized authority on all features of the business from the inception of manufacture to successful application of the products in service. The Canadian Rubber Co.'s business is classified into two distinctive divisions, viz.: the "Shoe Department" and the "General Rubber Goods Department." In the latter there is manufactured perhaps a larger variety of goods than in any other rubber plant on this continent, and with all of which Mr. Thornton is familiar. In 1898 Mr. Thornton was changed to the superintendency of the mill room of the shoe department, which he systematized and put in a satisfactory running basis. Following this he also took over the management of the wash house, reclaiming, and the manufacture of various cements and varnishes that the Canadian Rubber Co. produce. Meanwhile Mr. Thornton was engaged in the study of crude rubber, as a result of which, for a long time his selection has decided the company's purchases of rubber. In 1901 Mr. Thornton was given the responsibilities of costs, compounding methods, make-ups, cure, etc., of the whole manufacturing interests. Upon the advent of Mr. D. Lorne McGibbon as general manager, in January, 1903, Mr. Thornton was appointed superintendent of the general rubber goods factory, and later general superintendent of the entire plant. With the continued growth of the company's business, of late Mr. Thornton's time has grown into his recently changed position of general technical superintendent, though he still personally superintends crude rubber, reclaiming and cements.

A STANDARD FOR RUBBER COVERED WIRES.

IN a paper on Standardizing Rubber Covered Wires and Cables, by Mr. John Langan,* it is pointed out that the really vital point in all tests of such cables is to make sure of the rubber in the insulation. The writer presents some specifications and tests for wires and cables, based upon general principles which are summarized briefly herewith.

A badly insulated wire or cable will imperil the success of any system. Not only must the insulation itself be perfect: it must be properly tested, installed, and protected. Cables, some appear to think, are all alike. If they are only of copper, rubber covered cables are called for and purchased by some people with no other requirement than that they conform to the rules of some "code," and it all goes as "rubber covered," even if the compound be of cheap rubber substitutes. Such insulation cannot last long, since, possessing no vitality, it soon falls prey to variations of temperature and climatic conditions.

The fault here indicated lies not with the manufacturer, but with the rules, which impose no provision as to quality. All they require is a certain diameter of insulation. No one doubts the good intentions of the framers of these rules, but as indicating how wide of the mark they go in fulfilling any requirement of good insulation, consider what the rules say about testing wires before installation:

Each foot of the completed covering must show a dielectric strength sufficient to resist for 5 minutes the application of 3000 volts per $\frac{1}{4}$ of an inch thickness of insulation.

This would require a conductor with $\frac{3}{16}$ inch of insulation to stand a test of 60,000 volts—something impossible with the best Pará, much less with the cheap rubbish employed on some wire. But supposing it possible, who is to enforce the rule? Some of the larger users of cables, especially near the wire factories, send competent engineers to make tests at the works, but this is not always practicable, and wires are delivered and go into use without any tests except measurements. But nothing can be more misleading than to adopt the voltage test alone in determining dielectric efficiency.

What constitutes good insulation, and how can it be known? The consensus of opinion is that India-rubber is the best of all insulating materials. But rubber of itself is valueless as an insulating medium. Its tendency to oxidize is a feature of disintegration which precludes its use alone for this purpose. But in conjunction with other ingredients, and when vulcanized, it becomes absolutely waterproof and practically indestructible. It does not matter how good the rubber is, if it is not properly vulcanized.

There are many different grades of rubber. Chemically, they are distinguished by the amount of their resinous contents, and physically by their tensile strength. Both properties are closely related, for rubber which is chemically poor is also physically weak. The chemical test affords the reason for the high regard in which Pará rubber is held.

Now since good rubber is in itself very strong and very

elastic, these characteristics should be present in any insulated wire in proportion to the amount of rubber in the insulation. But this is not all; the immense influence exerted by vulcanization must be considered. Over vulcanized rubber will become hard and brittle; if under vulcanized, it becomes brittle and inert, and in either case the insulation will not meet the requirements of a tensile test. Good insulation is clearly indicated by its prompt return after being stretched several times to, say, three or four times its length, which, roughly speaking, implies a tensile strain of not less than 800 pounds to the square inch.

It has been proved repeatedly that where there is 30 per cent. of fine Pará rubber in the insulation, this physical test is easily obtained. But a combination of a lesser amount of Pará and a large amount of a cheaper rubber will initially, at any rate, produce the same test as 30 per cent. of fine Pará. Analysis of insulation compounds which gave a satisfactory test showed them to contain 15 per cent. of Pará and 30 per cent. of cheaper rubber. In other words, it takes 45 to 50 per cent. of a cheaper combination of rubber to do what 30 per cent. of Pará would do.

It will be seen from the above that while the physical test is effective to a certain extent, it does not compel the use of fine Pará. It is only by means of chemical tests that the percentage of resinous content can be ascertained. The best grade of rubber has hardly more than 1 per cent. of resin, while some others contain as high as 20 per cent. But insulation containing 30 per cent. of fine Pará may have from 3 to 5 per cent. of resin. This is because during vulcanization, for reasons not fully understood, the amount of resin in fine Pará increases to about 3 per cent., besides which the addition of some extractive matter to this normal amount is considered by the manufacturers a good thing for the insulation. But the total in the completed or braided wire should never exceed 5 per cent.; for beyond this limit the chemist cannot differentiate the grade of the rubber, and thus the value of the analysis is compromised. For this reason, tests should be made in the completed wire, rather than on the unfinished sample.

Referring to the unreliability of the voltage test the writer points out that certain oils will stand extremely high pressures, which shows why cheap compounds may stand very high initial tests and yet in a short time break down in actual service. The reason is that such oils, incorporated in a compound, soon evaporate, when the temporary virtues they possess disappear also and the insulation falls into decay. As a criterion of merit it is pointed out that a high insulation resistance is immeasurably better. At any rate this much is certain, that in insulating compounds having 30 per cent. fine Pará there is always associated with them a very high insulation resistance, whereas in cheap compounds the reverse is equally evident. A high insulation test should, therefore, wherever possible, always supplement a physical test, as it tends to elevate the grade of the compound. When a chemical analysis is contemplated the necessity for this is not so obvious; but where it is not the two, if associated, will produce the most satisfactory results.

* Presented at the 20th meeting of the American Institute of Electrical Engineers, New York.

"THE STURGEON RUBBER CO."

TO THE EDITOR OF THE INDIA RUBBER WORLD.—Referring to my letter to the New York *Tribune* about the rubber producing goat, which was copied in your issue of April 1, although it is of great scientific interest, it does not appeal to Americans, like the "rabbit weed" of Colorado, as a new source of supply, but now comes another discovery in the West, which bids fair to revolutionize the entire rubber industry.

Readers of Parkman's histories will remember that when DeSoto, in 1542, and LaSalle, in 1682, explored the Mississippi, they noticed that the ends of the Indian canoes were fitted with elastic bumpers or shock absorbers, about 6 inches in diameter, formed by binding together a number of pieces of elastic substances about the size of a hen's egg, and in the Jesuit relations of Fathers Marquette and Hennepin the matter is again referred to, and one of the canoes now being in the Museum of the Chicago University, Professor Damsell, of the Polytechnic College of Terre Haute, Indiana, the greatest living ichthyologist, had his attention called to it. On examining these buffers he found they were made up of the cartilaginous ends of the snouts of the *Acipenser rubicundus*, or common lake and river sturgeon, which has all the properties of rubber and which many years ago was much used by boys for the center of their balls, to make them bound well.

The professor, having a strong commercial instinct, went at once to Akron, Ohio, and communicated his wonderful discovery to prominent rubber manufacturers there, and they engaged him to make further investigations, advising him to go to Sandusky, which is the center of the sturgeon trade, large quantities of *caviar* being there packed and exported to Russia. Professor Damsell found that it would be necessary in some way to vulcanize the product, and it occurred to him to bring the fish itself to his aid. He therefore obtained a boat load of iron pyrites and had it thrown overboard into Sandusky harbor, and the sturgeon immediately gulped it down with great avidity, it seeming to be just what their systems required—the iron to enrich their blood and flesh and the sulphur to increase the size and actually vulcanize the ends of their snouts—so that in about sixty days they were 3 inches in diameter and commenced to dry up at their base and hang by a small ligament, like a wart or toad-stool, and the sulphurated hydrogen given off so choked the fish that they gave a violent sneeze, which threw off the balls, which rose to the surface of the water where boatmen gathered them up and shipped a carload to Akron, where they were found to be equal to Pará rubber.

Steps were at once taken to form the National Sturgeon Rubber Co., and the member of Congress from that district was requested to ask the government to make an adequate appropriation to aid and stimulate the new "infant industry," statistics being sent on to show that each female sturgeon's roe contained a million eggs, and that it would require to start with only 65,000,000 sturgeon to produce 65,000,000 pounds of rubber. (In other words, about the amount that was imported last year, at a cost of about 75 cents per pound, or \$50,000,000.)

Furthermore, the statistical petition went on to show that if each egg of the number produced by 65,000,000 sturgeon produced a living fish that it would require the whole of

Lake Erie to hold them and that it would reduce the price of rubber to less than 3 cents per pound, making it so cheap that all the streets of the principal cities could be paved with it, the same as the driveway and court of the Savoy Hotel in London; again, traffic on the elevated and street car lines could be made absolutely noiseless by using rubber sleepers, and in fact the whole railroad system of the United States could be equipped with rubber ties at a great saving in cost as well as a great comfort to travelers.

Again, the cheapness of rubber might lead it to become a great earthquake eradicator, as the Kansas City *Times* has just reported the formation of the American Rubber Tube and Building Co., who propose equipping water departments in all the large cities with rubber water mains, as earthquakes cannot injure them, and freezing cannot burst them, as being pliable they give room for expansion, and furthermore to prevent any of the great buildings from falling on the water mains and choking off the supply of water, the company is perfecting plans for rubber construction in all skyscrapers, so if an earthquake should topple them over they will immediately bounce back into place.

We may here mention a fact not generally known and one which seems to be a wise provision of nature, that when the sturgeon's snout is removed it is quickly renewed, the same as the claws of the lobster and other crustacea.

Again, it is the habit of the sturgeon at dusk to leap completely out of the water, and it is a sight well worth seeing, and it is beautifully described by Joseph Rodman Drake in the "Culprit Fay":

With sweeping tail and quivering fin
Through the wave the sturgeon flew,
And, like the heaven-shot javelin,
He sprung above the waters blue,
Instant as the star-fall light
He plunged him in the deep again,
But left an arch of silver bright,
The rainbow of the moony main.

FITZ NIGELL.

New York, May 17, 1906.

SOME WANTS OF THE TRADE.

[340] FROM England: "On page 231 of your issue for April 1 there is an interesting paragraph regarding the cutting of forest trees by means of a saw operated by compressed air. We should be pleased to learn how to secure the apparatus."

[341] A jobber writes: "Can you tell me who manufactures the Sutlive pillow ventilators?"

[342] A New York firm of commission merchants sends an inquiry in relation to bifurcated rivets, and where they are to be obtained.

[343] From Chicago: "We are in need of a small vulcanizer for laboratory rubber uses. Do you know of any manufacturer who turns out such requirements?"

THAT Mr. F. N. Hamerstrom is making so good a recovery from appendicitis at the Medico-Chirurgical Hospital, Philadelphia, is a source of much gratification to his many friends and acquaintances as well as to his immediate business associates at the Trenton Rubber Manufacturing Co. (Trenton, New Jersey), where he is the general manager.

SOME NEW TIRE FEATURES.

THE latest departure in pneumatics has been the construction of a set for a motor omnibus, the new type of vehicle which recently has become so popular in London. Until now it has been considered impracticable to produce pneumatics of such large size, but the demand exists—at least in the desire of the omnibus owners for whatever

equipment will tend to decrease the wear and tear of their vehicles. The most notable thing about the new tires, apart from their size, is the number of plies of canvas used in the treads. The size is $40\frac{1}{4} \times 6\frac{1}{2}$ inches, and the weight of the cover alone is 85 pounds. The latter, by the way, is fitted with case hardened studs on the tread. It remains to be seen whether the results attained will be commensurate with the



DALILA TREAD

heavy cost of these tires—a figure which has not yet been made public.

Among the devices which have been brought out lately in the French trade in the line of tire protectors is the "Neron," which consists of a layer of light steel chains, laid parallel and touching, between the inner tube and the shoe. These chains are laid in rubber, and enclosed between layers of canvas, and the whole then vulcanized, making a smooth, endless band, which is also flexible. Besides protecting the tube from puncture, this shield also tends to prevent blow outs, unless the shoe is torn wide open.

The French tire protector known as the "Cromwel" is of the anti skidding type. It is made of numerous cross strips or segments of rubber, plentifully studded, the ends bearing hooks which grip the tire rim. The tread, when mounted, presents an odd appearance, the overlapping cross

strips having been compared to the scales on the underside of a snake. The tread is mentioned as being easily attached or detached, when the tire is inflated. The rivets penetrating both thicknesses of the rubber, where the lap occurs, the separate pieces are firmly joined into one whole.

The "Genard" is another French tire tread made of overlapping strips, but in this case the strips are made of leather



CHAMEROY TREAD

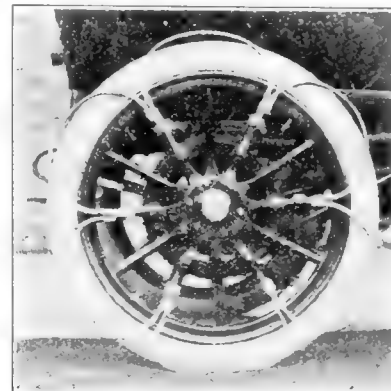
and riveted upon a leather band. The projecting rivet heads prevent skidding. The flap of each strip extends well forward, so as to prevent the entrance of water about the tire. The tread covers the whole tire and, being laced on, presents a neat appearance.

The "Dalila" is also a skid tread, consisting of a specially prepared overshoe of strong chrome leather, around the tread of which is riveted a sole of extra strong chrome

leather, steel studded. The tread is held on by the customary clips, which grip the clinches, put on when the tire is deflated.

In the "Chamero" tread, a flexible steel band encircles the tire two or three times, and is riveted to the tire. Upon this band are fastened cross strips of tempered steel, near enough to each other to touch, and with the ends bent up and tucked under the steel band. Between the shoe and the tube is a double layer of cloth, to protect the tube from heat and rivet chafing.

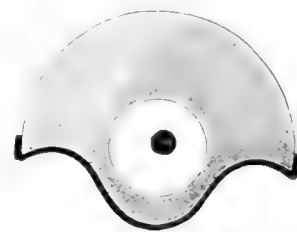
To turn now from French productions, mention will be made of the "Eyre" anti skid, which is of English origin. This consists of an ingenious arrangement of springs which are adjusted to the outer surfaces of the driving wheels of motor cars. These springs are adjustable, and can be put into or out of operation almost in a moment. An accompanying cut will show how the springs are attached, and how they appear when in use.



THE EYRE ANTI SKID.

CUSHION tires are still in demand in not a few places, chiefly because of their being less liable to puncture than pneumatics, while possessing more resiliency than solid tires. The illustration herewith of Kretzschmar's cushion tire, made by a leading German rubber firm, relates to a type which is used extensively on the postmen's tricycles in vogue in that country. It is recommended also for military cycles and might be used by tourists on hard trips. The tire is made with either round or pointed tread, and is said to be more elastic than the cushion tire of circular section.

THE "twin" form of solid tire, first introduced in England, is making headway wherever tires are demanded for specially heavy vehicles. Of late they have been applied to a number of the observation cars, or "sight seeing" buses of which so many are employed on the streets of New York, and with such results as to point to the ultimate use of "twin" tires exclusively where the weight of the vehicle calls for tires of more than a certain width—say 5 inches.



A GERMAN CUSHION TIRE.

In this connection may be mentioned the Wire Mesh Base Endless Tire, made by The Diamond Rubber Co. (Akron, Ohio), a twin tire in which the base is made of much stiffer rubber than the tread. In this base the wire mesh or woven wire is embedded, encircling the tire several times, adding greatly to its retaining power. The tire being slightly wider than the rim, the stiff base is tightly clamped in the channel, which serves to preclude creeping.

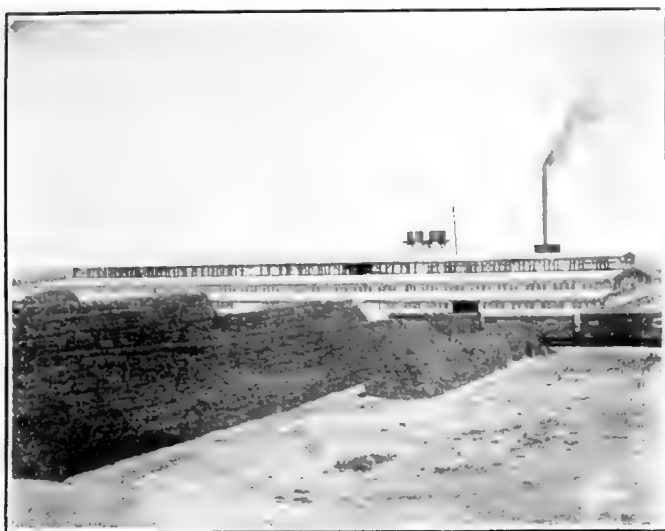
THE GUAYULE FACTORIES OF MEXICO.

THE rubber interests in Mexico have, during the last year, centered very largely in the producing portion, which is, strange to say, the alkali uplands, situated in and about Torreon. When, many years ago, a carload of a dry appearing shrub was brought to New

illustrations of a Guayule factory and facts concerning the Mexican output.

The largest factory in the world for the extraction of crude rubber is located at Torreon and is a steel frame building, roofed with corrugated iron, its dimensions being 198' x 396 feet. Two of the illustrations in this article picture the building, one of them showing huge piles of Guayule shrub in the form of bales—a bulk larger than that of the factory itself.

Exactly what the product of this factory would be, running night and day, it is difficult to say, but during the month of May, 1906, it turned out 300,000 pounds, all of which was purchased by American manufacturers. The same company—the Continental Rubber Co.—have another factory at Saltillo which is not running at the moment of this writing because it is shut down for the installation of a new engine. This has a capacity of two tons of finished material a day. A third factory is located at Ocampo, about 150 miles north of Torreon, and right in the middle of the Guayule fields, which has also a product of two tons a day. This has been running night and day since November, the product going to the European market.



SIX MONTHS AFTER LAND PURCHASE.
Factory of Continental Rubber Co.]

York that rubber might be extracted from it, much amusement on the part of the omnipresent sceptic resulted. Today that same shrub produces hundreds of thousands of pounds of excellent rubber, and great factories are running night and day for its extraction.

The rubber manufacturing trade, ever on the alert for something new and yet ever fearful of costly mistakes, has naturally been somewhat doubtful of the size or the permanence of this source of rubber. It is therefore with much pleasure that THE INDIA RUBBER WORLD is able to give



PILE OF GUAYULE SHRUBS AT TORREON FACTORY.

Whether the shrub is susceptible of cultivation no one pretends to know. That it is self propagating and within five years renews itself is well established. At all events there is enough shrub in sight to warrant the continuance of the business for years to come, and further than this, the company to whom is due the credit for giving this new rubber world is perfectly willing to guarantee shipments for any period that the manufacturer may elect.

As has already been mentioned, the last year saw a product of something like a million pounds. It is also as a matter of common knowledge that one large rubber company, after using Guayule for a year and a half has contracted for a supply of it for the coming year of between 600,000 and 1,000,000 pounds. Their past consumption of Guayule, several hundred thousand pounds, resulted in not a single complaint from the purchasers of their goods. The largest producers of mechanical rubber goods and footwear in the United States have also contracted for many hundred thousands of pounds of Guayule for the year to come.



END VIEW OF TORREON FACTORY.
[Continental Rubber Co.]

In speaking of Guayule as rubber, the writer, aware that some manufacturers class it as a substitute, still holds that it is a rubber, and a good one, and one that has a definite place in general rubber manufacture. To be sure it must be handled with wisdom; it should be washed thoroughly, sheeted thin, and used as soon as dry. If not, that is, if it hangs in the drying room too long, it becomes soft. Used wisely there is no doubt but it can displace higher priced rubbers without the slightest danger to the goods.

The present grade of Guayule, while showing wonderful improvement over those first put on the market, will undoubtedly be succeeded by even better. The softness which it possesses is of course due to the large percentage of resin in it, normally about 21 per cent. Some of the most experi-

The facts here cited have been carefully verified by the Editor of THE INDIA RUBBER WORLD and are given wholly as a matter of interest to rubber manufacturers.

PROMOTOR BORGES CONVICTED.

A VERDICT of guilty was rendered by a jury in the Boston superior criminal court on June 9, against Ferdinand E. Borges, who had been on trial since May 14 on charges connected with the promotion of the Ubero rubber plantation companies. Borges was on trial on two counts of conspiracy (with William D. Owen) to steal, and 126 counts of larceny. The jury failed to reach an agreement in regard to one conspiracy count and 53 charges of larceny, all connected with the Ubero Plantation Co. of Boston. The conviction was on the charge of conspiracy and 73 counts of larceny based upon the securing of investments in the Consolidated Ubero Plantations Co. by alleged false representations. Speaking generally, the jury were unable to agree that Borges had been guilty of conspiracy or larceny in his company promotion before the formation of the Consolidated company. It has been figured out that if the maximum sentence were imposed in each case the aggregate would be more than 200 years imprisonment. Counsel for Borges were given until June 30 to file exceptions. Counsel said that undoubtedly the case would be carried to the supreme court. Borges had been confined in jail for over seven months, in default of \$75,000 bail.

The troubles of the Ubero plantation companies have been reported in detail in THE INDIA RUBBER WORLD. The history of these organizations was given in our issue of May 1, 1905 (page 278). About that time much dissatisfaction began to be expressed by investors in regard to the management of the companies, and various investigations were set on foot, which resulted in indicating that little of the money invested had been devoted to the development of the plantations, but that it had been appropriated to the personal use of the promoters. Proceedings were instituted for placing the Ubero companies in the hands of receivers, and criminal proceedings were brought by a number of investors against Borges, who had been active in securing money from the public at the Boston office, and William D. Owen, a former member of Congress, who had been chiefly instrumental in organizing the companies. Owen has been in Europe since the first exposure of the frauds, beyond the reach of any legal service.

This is the second case in which a conviction has been had in the United States in connection with fraudulent practices in the promotion of rubber plantation companies. Frank B. Bittinger was arrested February 13, 1903, on a charge of the fraudulent use of the mails in promoting the Nicaragua Co., which purported to be forming a rubber plantation in Nicaragua, and had headquarters at Dayton, Ohio. He was indicted November 5, 1903, in the United States court at Chicago, and on December 10 sentenced to spend one year and a day in jail, and to pay a fine of \$1000.

SARAWAK (Borneo) imposes an export duty on Gutta-percha of 10 per cent. *ad valorem*; on Gutta-jelutong (Pontianak gum) of 60 cents (silver) 1 per pikul [=133½ pounds]; and on India-rubber, \$10 per pikul.



GATHERING GUAYULE SHRUBS

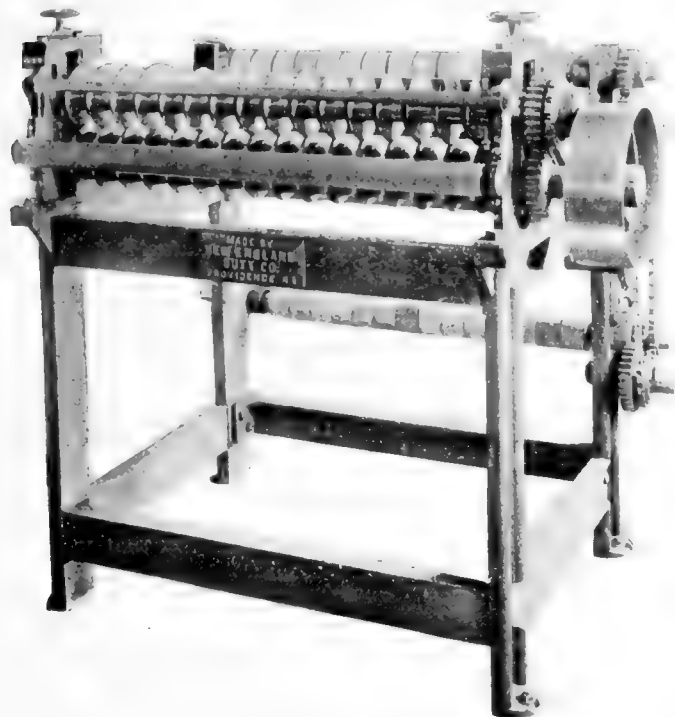
[Type of wagon in which Guayule is hauled, also general character of the country and size of plants in foreground.]

enced chemists in the country have been at work for months experimenting on practical processes for removing all or a part of this resin. They have succeeded in extracting two-thirds of the resin content, leaving the rubber so near like a high grade of Panama that it would be difficult to tell the difference. This deresinated rubber is not yet on the market, but will be eventually and should find a place for itself.

It must not be thought, however, that the presence of resin is always detrimental. One has only to remember that in certain compounds resin is added, to prove this. It is therefore a question if the present grade of Guayule at its low price is not for many purposes a better bargain for the manufacturer than would be a deresinated Guayule at a much higher price.

STRIP CUTTING MACHINE.

INDIA-RUBBER, with or without a backing of fabric, is often required in long strips. As it comes from the calender in sheets from 36 inches up to widths that only the largest calender can handle, it follows that to cut this sheet longitudinally into strips from $\frac{1}{4}$ to 3 inches wide, an accessory machine is needed. Hence the Strip Cutter. It is simple, and of course effective; made up of a series of sharp, rotary knives that revolve against a steel roll. Between the



roll and the knives the sheet of rubber or rubber coated fabric is led, and the strips cut at a speed that is marvelous. The knives are so arranged that they can be set at varying distances apart and the machine equipped with various starting, stopping, and speed regulating devices that need no specific description. [The New England Butt Co., Providence, Rhode Island.]

A CABLE LAYING MACHINE.

THE signal service of the United States government has purchased a submarine-cable laying machine made by Johnson & Philips, Limited, (Old Charlton, Kent, England), which is thus described in an exchange:

The machine consists essentially of a drum, round which the cable to be laid takes three or four turns. This drum can be driven by a small steam engine, the valves of which are controlled from the same platform as the brakes and tail-gear. The engine drives the drum by means of a pinion, which can be moved out of gear when the cable is being laid in deep water, in which case the weight is sufficient to drive the drum against the resistance of its brakes. Previous to passing round this main drum the cable passes over a tailgear, which maintains a constant pull on it, and thus ensures that it takes a firm grip of the main drum. This gear is fitted with a brake, by which the amount of tension can be adjusted. In lifting a cable it is, of course, es-

sential that this tailgear shall have a positive drive, and this is provided for by means of a Renold chain drive, one sprocket of which is keyed to a spindle carrying a sliding pinion, which can, when desired, be thrown into gear with the main drum. This chain drives the tailgear through a friction clutch, so that the gear can yield to sudden strains. In anything but a smooth sea, it is necessary to adjust the brakes on the main drum and tailgear with the motion of the vessel, since, if either brake wheel stops for an instant following the pitching of the vessel, it is liable to "seize," since the friction "of rest" is, of course, considerably greater than the friction of motion. Provision is therefore made for tightening this brake from the working platform. Twin machines are usually fitted, being required in splicing a cable; one machine can then haul in one end, whilst the other pays out. The machine is designed to carry a load of 25 tons.

BICYCLE TIRES IN ENGLAND.

IN an article on light weight bicycles, in London *Financial News*, the writer says it is impossible to have these without light tires. "The days have gone," he says, "when economical riders ordered tandem tires for their back wheels, in the hope of escaping punctures. It is now recognized that the side walls of a tire must be thin. If decent road surfaces could be counted upon everywhere, the tread might be thin also, as the gain in comfort and speed would be great. But a thin tread, even if composed of the purest material, must puncture on occasion, and therefore prudent riders usually have a strip of compressed rubber added to the tread of a light tire. Four years' experience of fabric-sided tires has convinced the writer that the actual road wear on the rubber treads is almost negligible. It is the fabric which ultimately gives out, owing to the ravage caused when riding through stretches of loose road-metal. The rider frequently escapes trouble, and passes unscathed through most puncturesome country, but afterwards discovers the injuries to his open sides."

On account of the continued popularity of cycling in Great Britain, the demand for bicycle tires is still an important item in the rubber trade. *Financial News* mentions the use of bicycles on a wide scale by the postoffice department, both by letter carriers and in the delivery of telegrams, which is a government function. "In rural districts the cycle mounted policeman, in the full dignity of helmet and tunic, is becoming a familiar feature."

A GRINDER FOR SCRAP RUBBER.

THE Birmingham Iron Foundry (Derby, Connecticut) have just put upon the market a double geared grinder refiner designed for pulverized scrap rubber. They have just put one in the Goodyear Tire and Rubber Co., in Akron, and it is doing a remarkable amount of work. The machine is described as follows: It is a 22" and 24" \times 60" chilled milled, double geared, giving a total friction of $2\frac{1}{2}$ to 1, the fast roll running 20 $\frac{1}{2}$ R.P.M. It is designed primarily for reclaiming mill work in grinding and pulverizing scrap rubber, and should handle from 6000 to 8000 pounds per day of 10 hours. The machine is readily equipped with adjustable guides, any type of bedplate, and if requested a safety stop device. The total weight of the machine is 50,000 pounds.

RUBBER INTERESTS IN EUROPE.

A HISTORY OF THE TRAUN RUBBER WORKS.

FOLLOWING the fiftieth anniversary of the firm of Dr. Heinr. Traun & Söhne, formerly the Harburger Gummi-Kamm Compagnie, of Hamburg, they have issued a handsome brochure outlining the history of the firm and their works, illustrated with views of interiors of the various departments, together with portraits of the heads of the firm and of the department managers. The history of this business has been fully outlined from time to time in THE INDIA RUBBER WORLD. It will be remembered that a son of the original Meyer, of Hamburg, came to New York and in conjunction with Conrad Poppenhusen acquired the first license under the Goodyear hard rubber patent and began working it at College Point, Long Island, on premises still devoted to this industry on an important scale, though the Hamburg interest is no longer represented in it. Another member of the Meyer family (L. Otto P. Meyer, still living at an advanced age in Dresden) came to College Point and vastly improved the practice in hard rubber.

The Meyer interest in 1856 introduced the new manufacture in Hamburg as the Harburger Gummi-Kamm Compagnie, in which was interested a son in law of the original Meyer, named Traun. It happened that a son of the latter was chosen to be the future head of this business, and after having received a thorough preparation—including a university training as well as a practical factory experience—Heinrich Traun became successively manager of the works in 1861, a member of the firm in 1863, and sole proprietor in 1883, the firm style remaining all the while unchanged. Later, upon the introduction of his two sons in the business, the company became Dr. Heinr. Traun & Söhne. The active management now devolves upon the sons, Dr. Traun devoting his time to his duties as a senator of the free city of Hamburg. The book here referred to, in addition to sketching in detail the history of the business and giving an idea of character of the goods manufactured, mentions the interest which Dr. Traun has at all times shown in the subject of the sources of rubber and the preparation of the raw product, as having a bearing upon the use of rubber in the factory. His investigations have been of much value to the whole rubber industry, and it may be of interest to note that much of the rubber used in the Hamburg factory has been derived from African sources controlled by Dr. Traun—it being understood, of course, that in the manufacture of hard rubber goods there are grades preferable to Pará sorts.

The book concludes with details regarding the various organizations among the work people for their social and physical benefit, to the support of which the firm contributes materially. These organizations are the outgrowth of measures for the benefit of his employes instituted by Heinrich Christian Meyer as early as 1828, on lines which have been incorporated to a certain extent in the German imperial law. The book contains photographs of groups of the firm's long service employes, showing six who have been in the company's service for fifty years and 131 for twenty-five or more years. The trade of the firm in the United States is supplied in a large measure by the products of a factory established by them some years since at College Point, New York, under the name Traun Rubber Co.

GERMANY.

THE rubber department of Asbest- und Gummiwerke Alfred Calmon A.-G. (Hamburg) continues very active—in mechanical goods, tires, and footwear—the works being operated until 8 o'clock at night. The number of workers has increased since 1900 from 85 to nearly 600, and the building of additional plant is contemplated.

=His Majesty the King of Saxony has conferred upon Herr Heinrich Brück, general director of Leipziger Gummiwaaren-Fabrik, Aktiengesellschaft, the Albert Order, first class, in recognition of his many services to industrial progress and the general good. On this date (July 1) occurs the forty-second anniversary of Herr Brück's connection with the firm.

=In a review of certain late reports regarding the United States Rubber Co., and particularly their purchase of the Atlantic Rubber Shoe Co. (owners of the Doughty patent for making footwear), *Gummi-Zeitung* (Dresden) congratulates itself upon its foresight. The shoe machine, it says, was going to revolutionize the rubber shoe industry, but "so far it has only revolutionized a number of influential capitalists." And "in any case our prophecy has been fulfilled, in the matter of the rubber shoe machine, as well as in that of the common stock of the United States Rubber Co."

A LARGE BALATA BELT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Our copy of your May 1 issue is to hand, and we notice your remarks on page 269 of the large rubber belt made by the Manhattan company. We beg to inform you that we have



A GERMAN MADE BALATA BELT.

been making 72 inch Balata belts for over a year, and our plant is capable of making them 750 feet long in one length, and also endless. We have pleasure in sending you a photograph of one of these 72 inch belts. Yours truly,

Altona near Hamburg, Germany, May 14, 1906. LOEWITZ & ROHLFS.

THE RUBBER TRADE AT AKRON.

BY A RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Akron and Barberton rubber industries were never seen to better advantage than early in June, when the Pittsburgh merchants and manufacturers who control the trade of western Pennsylvania and West Virginia came here on a visit and inspected all the rubber factories. Every plant in both of the cities is now working full time and the inspection, while it proved a treat to the visitors, had a tendency to advertise this local industry in a way never before presented. In consequence of the visit here several of the plants in both cities reported having received large orders for mechanical rubber goods and druggists' sundries.

The B. F. Goodrich Co., who have done more in the way of advertising Akron than any other plant in the city, will again introduce a novel scheme to advertise the company and incidentally advertise Akron. The local lodge of Elks is preparing to attend the national reunion of the order to be held at Denver, Colorado, in July. Each of the members going on the trip will be supplied with a large stock of rubber balloons and other rubber souvenirs which will be distributed at the convention to the delegates. Last year at Buffalo The B. F. Goodrich Co. sent with the local delegation a large number of rubber souvenirs, which proved a big drawing card for Akron and also for the company.

The city of Barberton, a suburb of Akron which has three flourishing rubber manufactories and a new reclaiming plant, believes in the policy adopted by congress, as laid down by Senator Dick, of Akron, in the building of the Panama canal, in which all the material possible is to come from the United States. Barberton councilmen believe in this policy, and to carry it out the council adopted a resolution at its latest meeting, in the matter of purchasing fire hose, that the Akron companies be given a preference over foreign companies. Many samples were submitted by foreign corporations seeking to supply hose for the fire department, but The B. F. Goodrich Co. landed the contract.

The Diamond Rubber Co. through their San Francisco agency have received word that their trademark has been registered in Japan. For several years past the company have been seeking to have their trademark registered, in Japan as they have been exporting a large amount of rubber goods to the Far East.

Mr. Frederick Clause, who has been with the Goodyear Tire and Rubber Co., has received a fine appointment—that of deputy in the prosecuting attorney's office in Summit county.

Work has been started at The B. F. Goodrich Co.'s plant for the building of another large addition to their plant. The new addition is being erected adjoining the Specialties building of the company. When completed it will be five stories high and have a width of 72 feet on Main street, on which the plant faces. The new addition will afford a floor space of 25,000 square feet, and will be devoted to general manufacturing purposes.

The Diamond Rubber Co. have acquired considerable additional land on Jackson street, adjoining their present plant. Secretary William B. Miller stated that the plans of the company have not matured as yet. It is understood, however, that they contemplate building a large addition upon the new property.

The International Automobile and Vehicle Tire Co. (Mill town, New Jersey) are making a strong bid for tire builders in Akron. The company advertise in the local newspapers that they desire young men to learn tire making. At the present time the Akron tire manufacturers are also in the field for all the tire builders available.

One of the events of the season always looked forward to by employes of The B. F. Goodrich Co. is the annual outing which is given by the company. The outing will be held on August 4 at Silver Lake, near Akron. Last year over 25,000 people attended the outing. Transportation and admissions to the grounds and privileges are furnished by the company to every employe.

David Webster Miller father of William B. Miller, secretary of The Diamond Rubber Co., and who was also interested in the company, was instantly killed on the evening of June 10, by being struck by an automobile in Yonkers, New York. Mr. Miller was on his way home in that city and alighted from the wrong side of a street car. He stepped in front of an automobile and was knocked down. Both wheels of the car passed over his neck, breaking it. Mr. Miller was 63 years old and is survived by two sons, William B. Miller, of Akron, and Harry C. Miller, of St. Louis, and one daughter, Mrs. Arline Mills, of Yonkers. Mr. Miller was connected with the New York branch of the company.

The great demand for smoking pipes, now that pipe smoking on the streets has become a fad, has been a boon for The B. F. Goodrich Co., who manufacture vulcanized rubber pipe stems. This department is turning out between 7000 and 8000 pipe stems a day and large orders are still to be filled for different pipe manufacturers throughout the country who are rushed with orders.

The Faultless Rubber Co. are enjoying a brisk trade. A large number of orders for druggists' sundries and rubber sundries are being filled by the company and the force at the plant is being greatly enhanced.

The Diamond Rubber Co., against which suit was filed by A. E. Ellinwood, a mechanical engineer, for \$317.24 alleged to be due for making certain designs and drawing for a new cord wrapping machine, filed a motion to the suit in which the company asks that the plaintiffs be compelled to file a copy of the contract alleged to have been entered into by the company and that also state the name of officer of the company with whom the contract was entered into.

An answer was filed in the county courts at Newark, Ohio, in the suit of Frank T. Lippincott v. James F. Lingafelter *et al.*, in which the plaintiff asked for the appointment of a receiver to take charge of the assets of the Lingafelter-Lippincott Manufacturing Co., which concern manufactured a patent rubber hose clamp. The answering defendant, Lingafelter, alleges that he furnished the money with which to conduct the business and that his interest in the patent was never transferred to him.

C. C. Shults, general manager and superintendent of the Alden Rubber Co. is perfecting a new patented seamless water bottle which will be manufactured by the Alden company in the near future. This company is enjoying an active trade in rubber sundries.

The plant of A. Adamson is being equipped with the most modern tools for the manufacture of rubber machinery. Mr. Adamson stated that he has purchased several thousand dollars' worth of new tools which are being put into the

plant. A 74 inch belt press has been shipped to the American Rubber Manufacturing Co. to be used in the new plant, that is being equipped by the company at Oakland, California. Another good sized shipment was made to the Kansas Rubber Co. of Olathe, Kansas. The company also shipped an 8 inch strainer to the Canadian Rubber Co. of Montreal, Limited.

The Williams Foundry and Machine Co. are making a strong bid for patronage in the rubber industry. Especially is this firm placing a large number of molds and hydraulic presses.

Mention was made in the last INDIA RUBBER WORLD of a warning sent out by the state fire marshal of Ohio against the use of rubber hose for gas connections where natural gas is used. The marshal, Mr. Henry D. Davis, writes to THE INDIA RUBBER WORLD that his office has no power to prevent the use of such hose, but he has encouraged the passage of city ordinances, providing that only wrought iron pipes shall be used for natural gas, owing to the fact that air combined with gas is an explosive material which will ignite from a spark or the blaze of a lamp or match—besides which the danger of asphyxiation is always to be kept in mind.

J. H. Adams has been appointed receiver of the firm of Dunton & Todd, of Akron, manufacturers of rubber horse shoes, upon a petition filed in the common pleas court, alleging that the firm was insolvent. The suit was brought by C. A. Holloway, who was the manager of the plant, and who represented that he held claims amounting to \$485.

E. W. Gammell, formerly connected with The India Rubber Co., of Akron, has been appointed general purchasing agent of the Hartford Rubber Works Co., entering upon his new duties May 1.

A series of receptions was tendered to the office men and other employes of The B. F. Goodrich Co., The Diamond Rubber Co., and the Firestone Tire and Rubber Co., during the past month, by the Young Men's Christian Association in Akron. The latter organization has just opened its spacious building, and the receptions were held in order to enlist the office men and employes of the big rubber companies as members. As a result of these receptions the membership of the new organization is largely made up of employes of the rubber concerns.

Joseph Dangel, superintendent of the American Hard Rubber Co.'s Akron factory, is captain of the champion bowling team of Summit County and Akron. The team is known as "The Rubbernecks" and won the city championship. The same team has bowled for four seasons and at the close of this season it was banqueted by the other teams of the county.

A rubber social, for the purpose of raising money for church needs, is the latest novelty. The Altar Society of the Mansfield (Ohio) Catholic church held such a social on May 12, at which every person present donated some article of rubber. The church parlors were turned into a good sized rubber store. Later the goods were sold at auction and the proceeds were turned over to the church treasurer.

The capital stock of the Dentists' Dental Rubber Co. of Akron which was recently incorporated with \$1000 capital, has been increased to \$100,000. For the present the company expects to have its product made by another rubber company; later on the company expect to build their own factory.

THE NEW JERSEY RUBBER INDUSTRY.

BY A RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: the general condition of the rubber trade in and about Trenton continues active, all the companies having a good supply of orders on hand. While the rush of a month or two ago has dropped off to some extent, the present output in all the mechanical lines exceeds that of the corresponding period of any recent year, notwithstanding the high price of rubber and cotton. As a result manufacturers are continually on the lookout for first class rubber workers, and the improved conditions in the various factories have eliminated any feeling of dissatisfaction among the employes which may have existed a year ago.

The Standard Rubber Co. (Trenton), incorporated in September last, have opened branches in Boston and Chicago to take care of the rapid growth of their business. Mr. James D. Brady, the company's manager, who lately returned from a trip East, states the condition of the rubber business throughout the New England states as exceptionally good. The Boston office is in charge of Mr. P. A. Murphy. The company are carrying a stock at the Chicago office, and are now filling many orders direct from the western branch.

With the Saturday half holiday now in effect, many companies have organized athletic clubs and a promise of strong rivalry for team honors exists among the men. The employes of the United and Globe Rubber Manufacturing Cos. are much interested in the baseball team lately organized. Through their manager they have challenged all other rubber company teams.

CEYLON RUBBER EXHIBITION.

ON another page appears an advertisement of the rubber exhibition, under official auspices, to be held in Ceylon in September next. It is intended to represent the latest progress in dealing with rubber from every standpoint—from the forming of plantations and the collection of the product to the manipulation of the latter in the manufacture of rubber goods. The planning of the exhibition has been the subject of much careful thought, it has enlisted widespread interest, and the results promise to be of real value to the rubber interest throughout the world. The coming event has had attention already in the news columns of our Journal; it is referred to here to introduce a remark on how the advertising columns of THE INDIA RUBBER WORLD have gradually recorded so many changes in connection with rubber—not the least of which is the substitution now in progress of plantation rubber for the forest product.

Prizes are offered for samples of rubber grown in Ceylon, in 12 classes, including 11 gold medals, 12 silver medals, and 3 silver cups. The list of exhibits provides for "Pará" (*Hevea*), *Castilleja*, "Ceará" (*Manihot*), and "rambong" (*Ficus*) rubbers. Another list of prizes is offered for rubber in the same classes, whether produced in Ceylon or abroad. Also, additional prizes (1) for the best collection of rubber other than the preceding, and (2) the best commercial sample of rubber in the show. Besides, 25 gold medals are offered for rubber collecting and coagulating apparatus and processes.

NEWS OF THE AMERICAN RUBBER TRADE.

THE BOWERS RUBBER CO. REBUILDING.

MR. W. F. BOWERS, of the Bowers Rubber Co. (San Francisco), who was a recent visitor in the office of THE INDIA RUBBER WORLD, talked most interestingly of the earthquake experiences as they relate to the Bowers company. It seems that although the earthquake was somewhat severe, it in no way injured the factory, and the hands, after a brief scare, were hard at work



as usual and the factory would have been running right straight along had it not been for the fire that finally drove them away from the building and destroyed it.

It was very fortunate for Mr. Bowers that he had already begun the erection of a new factory at Black Diamond, some 50 miles from San Francisco. This he at once began to rush to completion, and at the time this paper goes to press machinery will have arrived for its equipment, and it will be running by the first of August.

After the fire, Mr. Bowers hunted up his help and moved them all out to Black Diamond, erecting temporary houses



for them and setting them at work wherever they fitted in. The illustrations on this page show the calender room of the old factory after the fire and one of the temporary houses at Black Diamond.

A GOLF BALL THAT PAYS NO ROYALTY.

TO THE EDITOR OF THE INDIA RUBBER WORLD: We wish to call your attention to a part of statement in your issue of

June 1 (page 291), which you have copied from the New York Sun. This article states: "In this country all other makers of rubber cored balls pay a royalty to the patentees' firm, and should the House of Lords sustain the American patent, which the lower courts have not done, makers of rubber cored balls the world over would have to pay a similar royalty."

We wish to state that the Par ball, manufactured by the Republic Rubber Co., is a rubber cored ball with a Gutta-percha cover, and is manufactured by this company under United States patent No. 730,303. We pay no royalty to any patentee referred to in the article printed in your paper. We have taken every possible means, and at considerable expense, to acquaint every individual golf player that we will protect him absolutely in his rights to play the Par ball; we have also advised every dealer who handles the Par ball, absolute protection.

THE REPUBLIC RUBBER CO.

Youngstown, Ohio, June 7, 1906.

By J. LOMAX, Vice President.

GENERAL ELECTRIC CO.'S REPORT.

THE fourteenth annual report of the General Electric Co. (Schenectady, New York), for the year ending January 31, 1906, shows: Goods billed during year, \$43,146,902; orders received, \$50,044,272; profits, \$7,319,160.61; dividends paid, \$3,861,062; surplus at end of year, \$12,027,295.09. The capital authorized is \$60,000,000 and the amount outstanding \$54,286,750. Cash figured in the assets at \$6,356,093.77; the company have no note payable; the patent account has been written off until it amounts to only \$1,000,000 (this account figured at \$4,000,000 in 1899). The report does not refer in anyway to the company's rubber department, but this is very important, in view of the amount of insulated wire sold from their factories.

RUBBER FOOTWEAR FOR THE INDIANS.

PROPOSALS were opened at St. Louis, on April 26 by the board of Indian commissioners of the United States, for certain supplies for the Indian service for the fiscal year beginning July 1, 1906, to include the articles of footwear in the following list. With the exception of that to Mr. Sherman, all the awards were made to J. Edmund Strong, who is said to represent the Edwards-Stanwood Shoe Co. (Chicago), and who has been the successful bidder for several years past. Below is a list of the articles contracted for, together with the prices at which the awards were made:

800 pairs, men's rubbers, Nos. 7-11.....	\$2 45½
2965 pairs, overshoes, arctics, boys Nos. 1-6.....	68 .86
1230 pairs, overshoes, arctics, misses, Nos. 11-2.....	.59
1590 pairs, overshoes, arctics, men's Nos. 7-11.....	1.02
575 pairs, overshoes, rubber boys', Nos. 1-6.....	.36 .44
515 pairs, overshoes, rubber misses', Nos. 11-2.....	.31½
1715 pairs, overshoes, rubber, women's Nos. 3-8.....	.38
190 pairs, overshoes, rubber, men's Nos. 7-11.....	.54½

William F. Sherman, St. Louis, was awarded the contract for 1590 pairs of women's arctics, Nos. 3-8, for 72 cents. The total number contracted for is 11,170 pairs, against 8607 pairs called for last year.

AMERICAN RUBBER MANUFACTURING CO.

THE factory of this company in Spear street, San Francisco, was demolished by the earthquake in April, though not reached by the fire. Their machinery was only slightly

damaged and their stock remained practically intact. The company are erecting a larger factory, to include considerable new machinery, in Oakland, which they expect to have in operation very shortly, making the same line as previously—hose, belting, and packing, and other mechanical rubber goods. This company was incorporated early in 1905 to succeed to the business of the West Coast Rubber Co.

CANFIELD RUBBER CO.—EXTENSION.

AN important addition is being made to the manufacturing facilities of the Canfield Rubber Co. (Bridgeport, Connecticut). They have leased and are fitting up the Knapp & Cowles factory property, at Railroad avenue and Garden street, where they are installing an entirely new power plant, putting in a heavy duty engine with direct connection to mill room and rope drive for balance of the plant. This additional factory will accommodate twice the present working force, and provide room for other lines of production which may be added from time to time.

NEW ENGLAND RUBBER CLUB COMMITTEES.

THE following assignments on committees of the New England Rubber Club have been made for the current year. The secretary, treasurer, and assistant treasurer are members *ex officio* of the dinner, entertainment, and sports committees:

Dinner. Francis H. Appleton, chairman; Eugene H. Clapp, J. Frank Dunbar, G. E. B. Putnam, Ernest B. Benson.

Entertainment. George H. Mayo, chairman; E. E. Fay, William H. Palmer, J. S. Patterson, George O. Currier, Jr.

Auditing.—J. Frank Dunbar, George P. Eustis

Sports. W. E. Parker, chairman; F. D. Balderston, R. L. Chipman, W. E. Farrington, Frederick T. Ryder.

Resolutions.—Arthur W. Steelman, chairman; George P. Whitmore, E. E. Walbrook.

RUBBER MACHINERY FOR EUROPE.

THE Birmingham Iron Foundry (Derby, Connecticut), are understood to have received orders recently for calenders and washers for the rubber factory of Michelin et Cie., of Clermont-Ferrand, and for a new rubber concern in Paris, the Société Parisienne du Caoutchouc Industriel. American machinery of this type, by the way, is dutiable at a rate 50 per cent. higher than is paid on imports from England or Germany. Mr. F. D. Wanning, secretary and treasurer of the Birmingham foundry, lately returned from a visit to Europe.

NEW INCORPORATIONS

THE Kenton Rubber Co., at Kenton, Ohio, May 29, 1906, under Ohio laws; capital, \$25,000. Incorporators: John N. Kurtinden, L. A. Ansley, Charles S. Franklin, A. P. Conant, and Mabel A. Franklin.

—Dodge Rubber Stamp Co. (Oakland, Cal.), May 25, 1906, under California laws; capital authorized, \$25,000. Directors: H. L. Breed, J. S. Dodge, K. T. Dodge.

Rubber Manufacturing and Distributing Co., a Maine corporation, has filed in Washington state its papers of incorporation, with notice of appointment of L. B. Hitchings, at Seattle, Wash., as agent in that state.

Amazon Rubber Co., May 10, 1906, under New Jersey laws; authorized capital \$1,000,000. Incorporators: J. George Lutz, Charles H. Hanson, John J. Griffin, and Kenneth K. McLaren (connected with a corporation agency)—all of No. 15 Exchange place, Jersey City, N. J.

—Multiplex Tube Tire Co., May 8, 1906, under New Jersey

laws; authorized capital, \$1,000,000. Incorporators: Frank A. Magowan, Frank B. Adams, John P. Fritts, and Kenneth K. McLaren—all of No. 15 Exchange place, Jersey City, N. J.

—The Flexible Tire Co. (Springfield, Mass.), May 15, 1906, under Massachusetts laws; capital, \$60,000, in \$10 shares. William G. Marr, president; Richard J. Talbot, treasurer; Dr. James P. Hillard, clerk.

—Metropolitan Rubber Co., April 21, 1906, under the laws of New Jersey; capital, \$2000. Incorporators: William F. Ackerman, Harvey H. Westervelt, and Edwin A. Westervelt, all of Jersey City.

—The Paige Rubber and Asbestos Co., April 11, 1906, under Missouri laws; capital \$20,000. Incorporators: Nathaniel Paige, Jr., (president); Willard S. Paul, and Clara Paul. The company have established at No. 121 East Fourth street, Joplin, Mo., a business in supplying the important mining district of which that town is the center with mechanical rubber goods. It is the first exclusive rubber and asbestos house in that region.

—International Rubber Co., May 24, 1906, under New Jersey laws; capital, \$100,000. Incorporators: John W. Ingram, Le Grand Bouker, George H. Russell. Registered office: No. 243 Washington street, Jersey City.

The Anti Rubber Tire Co., recently incorporated under the laws of California, are erecting a factory at Wilmington, near Los Angeles, for making leather automobile and bicycle tires.

—The Bristletite Brush and Rubber Co., February 28, 1906, under New Jersey laws; capital, \$25,000. Incorporators: George F. Travis, John H. Hoppe, and John H. Eastwood, all of Belleville, New Jersey. The company make a specialty of a rubber handled shaving brush, manufactured for them by the Hardman Rubber Co.

TRADE NEWS NOTES.

THE recent issue of \$500,000 additional capital stock of the Canadian Rubber Co. of Montreal, Limited, brings the total to \$2,000,000, the authorized capital of the company. It has been found necessary to increase their manufacturing facilities, and also their working capital, and the new issue has been approved by the shareholders, taking effect on June 15, at par to the existing shareholders, in the ratio of 1 to 3.

—The Pacific coast manager of the Diamond Rubber Co. (Akron, Ohio), after the destruction of the San Francisco headquarters, crossed the bay to Oakland, to look for new premises. Not finding anything suited for his purpose, he contracted with a local builder to have a frame structure, covering 5000 square feet of ground, erected within 12 days, and it was done. Meanwhile, 3 carloads of goods had arrived from the factory at Akron, and further shipments were on the way.

—Mr. William J. Gorham, the exceedingly energetic president of the Gorham Rubber Co. (San Francisco), is justly proud of the fact that after the earthquake and fire the building that he rushed up to house his employes was the very first of the quick building operations that at once began.

—The strike of the Boston Insulator and Asbestos Workers' Union for an advance of 50 cents per day, which was inaugurated on May 1, and mentioned in the last issue of this paper, has been continued indefinitely, by a vote of the strikers in secret ballot on May 21.

=Some of the so-called minor industries connected with the rubber trade are exceedingly large and but little known. For example, the manufacture of wooden shells, of which every calender and stock room has hundreds, is practically in the hands of one concern, that of Adolph Martin & Son (Passaic, New Jersey), who manufacture solid patent wooden shells, of which there are nearly a million in use in the rubber manufactories at the present time.

=Dr. Durand Woodman (New York), well known in the rubber trade as an analytic chemist, continues to be called as an expert in legal cases. A recent instance was where the Morris Canal company, in New Jersey, proceeded against the owners of a paper mill, for the alleged pollution of the canal so as to render the water unfit for use by woolen factories supplied from the canal. Dr. Woodman testified for the canal company, and the case appears to have been decided upon his evidence.

=The Clark Insulation Co. (Boston) announce the change of name to the Boston Insulated Wire and Cable Co., the ownership and management remaining the same.

=Queen Manufacturing Co., of Marshalltown, Iowa, will remove their factory to Webster City, Iowa, the citizens of which are reported to have invested \$10,000 in the stock of the company. The products—door mats, curry combs, and various other specialties—are based upon patents issued to A. S. Burnell.

=That a man connected with the rubber trade in so important a way as Mr. Anton C. Eggers should achieve the distinction of having his first operatic effort produced upon a high class New York stage, brings up the question whether there is any connection between rubber and music. The operetta "Nina," which was given throughout the first week of May at Irving Place Theatre, is the work, both words and music, of Mr. Eggers, of the Goodyear's India Rubber Glove Manufacturing Co. The *New-Yorker Staats Zeitung*, in a lengthy and favorable critique, remarked that Mr. Eggers drew out his themes like rubber bands. In spite of the joke, however, the critic predicts for the composer a brilliant career in the world of music.

=The United States Rubber Co. are filling orders for their Pacific Coast trade from their store at Portland, Oregon. They are negotiating for a new building in San Francisco, and shall continue doing business there as formerly, as they feel that San Francisco will be as large if not a larger distributing point than ever. Their temporary office in that city is at No. 2600 Pacific avenue.

=One of the newest applications of the conveyor belt principle to merchandizing is a rubber belt 450 feet long, in the United States Express Co.'s building in Hoboken, New Jersey. The belt, which is 36 inches wide, will convey packages from the wagons to the storage and distributing department.

=Joseph Dixon Crucible Co. (Jersey City, New Jersey) refer to a series of tests on roller bearing made by Professor C. H. Benjamin, at the Case School of Acquired Science (Cleveland, Ohio), compared with certain results which have been obtained by Professor Goss, of Purdue University, from plain bearings lubricated with kerosene and Dixon's Flake Graphite. Without going into detail in this place it may be pointed out that the results tend to show that a graphitic mixture well designed for the service expected of it made a very much better showing than from the roller bearing.

=The Siemon Hard Rubber Corporation (Bridgeport, Connecticut) have just completed an addition to their factory which duplicates their floor space. They manufacture insulating compounds entirely, and the increased space will be used for the extension of their press room capacity. As their work is along the lines of specialties for large manufacturers of electrical goods in the United States and Canada, they do not issue any catalogue.

=Mr. A. F. Townsend, president of the Manhattan Rubber Manufacturing Co., has just returned from Peekskill, New York, where he has been in camp with the National Guard of New York state. He is lieutenant of Troop A, seventy-first regiment.

=Electric Hose and Rubber Co. (Wilmington) have filed with the secretary of state of Delaware a certificate of increase of capital from \$300,000 to \$500,000.

=The friends of Mr. Humphrey O'Sullivan, of the O'Sullivan Rubber Co. (Lowell, Massachusetts), are talking of him for political promotion. His name has been mentioned in connection with the positions of congressman and lieutenant governor.

=The Michelin Products Selling Co., Inc. (Nos. 31-33 West 31st street, New York), of which E. D. Winans is general manager, have acquired the sole and exclusive rights in the United States to import Michelin tires and other products of Michelin et Cie., of Clermont-Ferrand, France.

=U. S. Rubber Reclaiming Works (New York) have arranged for representation for the future sale of their products to the European trade by Meyer & Bussweiler, Limited, 29, Mincing lane, E. C., London, and Union Bank chambers, Liverpool. The latter firm will keep stocks in Liverpool of all the brands of the reclaiming company such as "Victoria" (which has hitherto also been sold under the name of Excelsior), "Matchless," etc.

=The Gutta Percha and Rubber Manufacturing Co. of Toronto, Limited, are the only company on this continent making revolving rubber heels, though this type of heel is so widely used in Great Britain. They are also extensive manufacturers of other rubber heels.

=Mr. Charles N. Candee, secretary of the Gutta Percha and Rubber Manufacturing Co. of Toronto, Limited, has recently been on a visit to London, where his company have successfully established a selling branch at 1, Finsbury square, E. C.

=The Webster Manufacturing Co. (New York), about 18 months ago installed a very large conveyor belt in the works of the American Coke and Gas Construction Co., at Camden, New Jersey, to carry the coke from the retort to the disposal piles. Although the belt is of rubber and the coke comes from the retort almost red hot, the belt has proved such a success that a second one has just been put in.

=Mr. John D. Vermeule, president of the Goodyear's India Rubber Glove Manufacturing Co., with which he has been connected for more than 62 years, is still hale and hearty, is enjoying his yearly vacation at his summer home at York Cliffs, Maine.

=Messrs. Thomas Rowley & Co. have given up the offices they have had for so many years at 40, Corporation street, Manchester, and their sole address will be at the works, 13, Green Lane, Brook street, Manchester, which is only a short walk from the center of the city.

=At the annual meeting of the Easthampton Rubber Thread Co. (Easthampton, Massachusetts), on June 19. L. S. Stowe was reelected president, Frederick T. Ryder treasurer, and F. W. Pitcher general manager.

=The International Rubber Co., of Derby, was incorporated June 18, 1906, under the laws of Connecticut; capital, \$5000. Incorporators: Charles E. Wood, Piermont, N. Y., Albert A. Manchester, Jr., and Frederick G. Gove, New York city.

=Milford Rubber Cement Co. was incorporated June 14, 1906, under the Massachusetts laws; capital, \$25,000, of which \$10,000 preferred. G. D. Morse, Milford, New Hampshire, president; Philip H. Farley, No. 50 State street, Boston, treasurer; J. Ellison Morse, Boston, clerk.

=The various brands of Borneo rubber and Pontianak (gutta-jelutong), hitherto sold by the late Pierre T. Betts (New York), will be handled hereafter by Joseph Cantor, Nos. 56-58 Pine street.

=Referring to the projected new rubber factory at North Brookfield, Massachusetts, mentioned in the last INDIA RUBBER WORLD, a local newspaper of June 14 reported: "Everybody connected with the proposed new rubber manufacturing business for North Brookfield village is encouraged by the prospect. It is understood that nearly one-half of the proposed amount of stock has been raised." Another paper says that certain Boston people are ready to take any of the stock not subscribed in North Brookfield.

=Maynard Rubber Corporation (Springfield, Massachusetts), retailers of rubber goods, held a meeting of directors and stockholders at Hartford, Connecticut, on June 18, at which a dividend of 8 per cent. for the year was declared.

=The William Bolles Co. (Toledo, Ohio), June 11, 1906, under Ohio laws, to handle hard rubber goods; capital, \$50,000. Incorporators: William Bolles, Joseph C. Bonner, Dorothy B. Bolles, C. C. Bouttelle, Florence M. Bower. This is a reorganization of The Standard Self Filling Pen Co., manufacturers for three years past of a patented fountain pen. The corporation has been formed for the purpose of enlarging the business. They are now making hard rubber holders, both for themselves and for the trade.

=The business in Gutta-percha tissue carried on, in connection with crude gutta, by the late Pierre T. Betts (New York), has been taken over by the Bishop Gutta-Percha Co., who manufactured the tissue sold by Mr. Betts. The Bishop company have always made Gutta-percha tissue, but have not until now marketed tailors' tissue in their own name.

=The incorporation of The A. Dewes Co. (New York) to manufacture the steel flanges used in keeping in position the endless solid tires used on commercial auto vehicles is another evidence of the needs of this many sided industry. The use of the side flange has grown enormously of late, its many advantages having at last been recognized by users of the solid tire in heavy work. Mr. A. Dewes, the inventor of the Dewes solid endless tire, and the president of the new company, has lately invented and patented some clever machinery especially adapted to the making of these steel flanges.

=Charles M. Evans returned lately from an initial business trip west and south in the interest of the Globe Mills Rubber Co. (Lawrence, Massachusetts), and is reported to have booked some exceedingly good orders for that company's rubber footwear.

=L. C. Chase & Co. (Boston) have removed from No. 129 Washington street to new offices at No. 89 Franklin street, where they carry stocks of the products of their four mills, one of which is the Reading Rubber Manufacturing Co. The "housewarming" in their new premises took the form of a luncheon to which a number of the firm's customers were invited.

=The American Can Co. (New York), the largest manufacturers in America of tin cans for all purposes—including rubber gathering cups, for use in rubber tapping—having outgrown their former spacious quarters, have removed to a new eight story steel frame fireproof and manufacturing building at No. 447 West Fourteenth street.

=Mr. D. McCullum, who for so many years successfully marketed the substitutes manufactured by the Corn Products Co., has gone out of that line of business and into that of marketing real rubber, having connected himself as selling agent with the Eastern Reclaimed Rubber Co. (New York).

=The Apsley Rubber Co. (Hudson, Massachusetts) are erecting at their factory a 50,000 gallon water tank as an additional measure of fire protection.

=Waterbury & Rising, of St. John, New Brunswick, have leased a four story brick building in that city for 10 years, and are having it remodeled to render it one of the best equipped warerooms in the lower provinces of the Dominion. The firm are maritime distributors for the Gutta Percha and Rubber Manufacturing Co. of Toronto, Limited, and the importance of their trade is indicated by their employment of five travelers in the maritime provinces.

=Goldberg & Rathman, dealers in rubber scrap at Boston, have found it necessary to enlarge their office space, and part of the second floor of the building they occupy, Nos. 289-293 Commercial street, is being altered for that purpose.

=Mr. George W. Knowlton, of the Boston rubber trade, recently delivered an address before the members of the New England Street Railway Club at the American House, Boston, on "The Fascinating Story of Rubber", illustrated by stereopticon views. Many samples of rubber were shown, and an account of their source was given, and a reference made to the use of rubber in street railway insulation work.

=Mr. Edward E. Menges, formerly general manager of the Seamless Rubber Co. (New Haven), has purchased the box manufacturing business of C. H. Watrous, at Middletown, Connecticut, which he purposes conducting in future upon a larger scale.

=The Rev. Everett D. Burr, D.D., of Newton, Massachusetts, has been delivering before men only a lecture on the methods which he understands to have been practised in rubber gathering in the Congo Free State. At latest accounts he had delivered 200 addresses, in 59 cities and towns.

The New England Rubber Club plan their midsummer outing for this year along somewhat different lines from those of previous years. Instead of going inland they expect to take a steamer trip to one of the beautiful islands in the harbor perhaps to Fort Warren, where baseball and other sports will be enjoyed. At the conclusion of the sports they will reembark on the steamer and a brief run takes them to Point Shirley, where at the club house they are to be served with a shore dinner. After the dinner one can return to Boston by boat or by train. The date set for the outing is July 18.

=Work was begun at the factory of the recently organized Elkhart Rubber Works (Elkhart, Indiana) on June 11, the initial output being pump valves. The plant is in charge of George W. Graham, lately employed at one of the Canadian factories.

=Additional sales branches and distributing agencies of The Canadian Rubber Co. of Montreal, Limited, have now been opened at Regina, Saskatchewan; Calgary, Alberta; and Victoria, British Columbia. The growth of the company's business in the West has necessitated these extensions, and a big increase of business is looked for as a result. This was the work of Mr. R. J. Younge, general sales manager, who during his absence visited the United States Pacific coast, returning home via Chicago.

=The river frontage of office and factory buildings of The Canadian Rubber Co. of Montreal, Limited, are being utilized for advertising purposes very effectively. Exceedingly attractive signs have been put up that will be seen by the whole of the river traffic, coming into and leaving the port of Montreal.

=The "Canadian" hanger of The Canadian Rubber Co. of Montreal, Limited, is perhaps the most attractive piece of advertising work of its kind seen in Canada. It was designed by the company's advertising manager, Mr. J. Morris Carroll, and is 40x19 inches. The design shows a winter scene on Mount Royal, and calls attention to the company's footwear. It is much appreciated by jobbers.

=Mr. A. J. MacLaren, B. Sc., general superintendent of the rubber goods department of The Canadian Rubber Co. of Montreal, Limited, is a graduate of McGill University (Montreal), class of 1896.

=Mr. George M. Allerton, treasurer of the Seamless Rubber Co. (New Haven, Connecticut), was a passenger on the steamer *Chicara*, from Toronto to Niagara Falls, on June 8, when that boat had an experience in a storm, when about two miles from the mouth of the Niagara river, which none of those on board would care to repeat. After the storm, and when the boat had been safely docked, a deputation of the passengers, headed by Mr. Allerton, called upon the captain, C. J. Smith, to express their praise of the manner in which he had handled the boat under such trying conditions, and surprised him with the present of a purse containing a handsome sum of money.

=The management of The Canadian Rubber Co. of Montreal, Limited, will tender a complimentary picnic to all their employes on Saturday, July 14. Two steamers have been chartered, and the festivities will be held at the quaint old town of Berthier, P. Q. Over 2000 of the company's work people and officials will take part in the picnic. Mr. D. Lorne McGibbon, vice president and managing director, is the moving spirit in the picnic, and intends that all taking part shall have a very enjoyable time.

=The common stock of the Rubber Goods Manufacturing Co., in which there had been practically no trading since the merger with the United States Rubber Co., has been stricken from the unlisted department of the New York Stock Exchange.

=There has been listed on the New York Stock Exchange an additional \$300,000 of first preferred stock of the United States Rubber Co., issued on account of the extension of the plant of the Morgan & Wright Co., making the total amount of first preferred stock authorized to be listed \$37,876,900.

=Mr. Elliott Durrand, president of the Cascasjal Plantation Co., of Mexico, advises THE INDIA RUBBER WORLD that the result of the first experimental tapping from 100 trees was 10 pounds of dry rubber. This tapping, however, was done at the end of the dry season, and very lightly at that.

=The Hadley Cement Co. of Canada, Limited, has been incorporated under the laws of the Dominion. The company is separate from The Hadley Cement Co. (Lynn, Massachusetts), though the factory is operated by parties interested in the latter. The factory is located at Cote St. Paul, about 3 miles from Montreal, and is designed to supply Canadian users of the Hadley cements more promptly, and without the payment of import duties as formerly.

DINNER TO EX-GOVERNOR BOURN.

A COMPLIMENTARY dinner in honor of the Hon. Augustus O. Bourn, former governor of Rhode Island and president of the Bourn Rubber Co., was given one evening recently at the Hotel Belvedere, at Bristol, R. I., by friends whom he has entertained annually for a number of years on the anni-



versaries of his birth. The affair was so planned as to make it a complete surprise to Mr. Bourn, from whose knowledge it was kept until the time came for sitting down to the banquet table. There were 16 in the party, and the event was thoroughly enjoyed by all present. At the postprandial ex-

ercises Colonel Samuel P. Colt, president of the United States Rubber Co., acted as toastmaster, and all the guests made brief addresses. There was music by an orchestra from Providence. The party included A. O. Bourn, Jr., Colonel Stephen W. Bourn, Judge O. L. Bosworth, Senator H. H. Shepard, John P. Reynolds, Dr. C. J. Hasbrouck, former Lieutenant Governor William T. C. Wardwell, Joseph E. Fletcher, B. Thomas Potter, Charles B. Rockwell, Walter H. Barney, E. C. Pierce, H. H. Bedell and Charles F. Chace. Letters of regret at absence were from Governor Utter and David S. Barry.

Governor Bourn became interested in the rubber industry in 1855, immediately after his graduation from Brown University, joining the company in which his father was interested, and he is still actively engaged in the business.

PNEUMATIC TIRE POOL TO DISSOLVE.

It appears probable that the selling agreement among the makers of pneumatic tires which expires on September 1 next will not be renewed, in view of the announcement that The B. F. Goodrich Co. (Akron, Ohio) will withdraw on that date from the so called "pool". The basis of the agreement is an estimated production during twelve months, amounting

to \$9,000,000, based upon the actual business of the preceding year, and the allotment of a certain share of this business to each manufacturer in the association. Any firm making more than its allotment pays into the pool fund a certain percentage on its excess. There is also involved an agreement to make prices uniform. It is understood that the allotment to The B. F. Goodrich Co. is 23 per cent. of the whole, and the withdrawal of so important a factor is expected to bring the pool to an end. A desire on the part of the tire manufacturers for freer competition in the matter of prices is believed to have had an influence in this new move, but rumors exist of dissatisfaction with the limit of production by the several makers, which probably has had more weight. The trade seems to expect somewhat lower prices immediately after the termination of the agreement, though the feeling is that present rates are not too high for good quality tires.

A REPORT FROM LA CROSSE.

A WESTERN correspondent of THE INDIA RUBBER WORLD states that it is rumored that the La Crosse Rubber Mills Co. now situated at La Crosse, Wisconsin, are planning to move to another city, to increase their capital to \$1,500,000, and to go into the manufacture of rubber footwear on a large scale. Their plans embrace the building of a modern mill, wholly for shoes, with an initial capacity of 20,000 pairs a day.

NEW YORK STOCK EXCHANGE TRANSACTIONS.

UNITED STATES Rubber Co. :

DATES.	Common.			Preferred.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending May 19	9,000	51	49 3/4	1,000	110 1/4	109
Week ending May 26	2,800	51	50	1,300	109 3/4	109
Week ending June 2	1,225	51	50 1/4	50	109	109
Week ending June 9	1,800	51 1/2	51	660	109 1/2	109 1/4
Week ending June 16	3,800	51 1/4	49 1/4	600	109 1/2	108 1/2
Week ending June 23	2,820	49 7/8	48 7/8	100	108 1/2	108

SECOND PREFERRED.

Week ending—	May 19.	May 26.	June 2.	June 9.	June 16.	June 23.
Sales.....	900	500	100	300	500	100
High.....	80 1/2	80 1/2	81 7/8	80 7/8	80	78 1/4
Low.....	80	80	81 7/8	87	78	78 1/4

PERSONAL MENTION.

MR. FREDERICK W. WHITRIDGE, of New York, the special ambassador from the United States to the marriage of King Alphonso of Spain and Princess Ena, will be remembered in the rubber trade as one of the *concessionaires*—the other being Sir Martin Conway—from Bolivia of the territory comprised in the Acre district which led to the trouble between Bolivia and Brazil. The syndicate organized to exploit the concessions disposed of their rights to the Brazilian government for a handsome sum.

THE INDIA RUBBER WORLD is in receipt of some interesting views on the future of agriculture in the West Indies, as meriting the interest of capital in the United States and Canada, on the ground that the people of England seem to feel little interest in that part of their empire. The writer is Mr. William J. Thompson, B. Sc. A., a graduate from Toronto University in agricultural chemistry, who has been traveling for several years in the West Indies and neighboring countries for Swift & Co., Union Stock Yards, Chicago, and is now at Georgetown, British Guiana.

THE TEXTILE GOODS MARKET.

THE cotton duck situation doesn't bring any material change, as the demand continues strong and prices extremely firm. This has been the case for months in the mechanical goods trade and the demand has, if anything, been strengthened by recent operations of the rubber shoe manufacturers who are not, however, buying as liberally as they would have done had the winter been more severe.

The United States Cotton Duck Co., having purchased practically all of the stock of the J. Spencer Turner Co., have decided to sell their product directly after January 1. This is a radical change in selling methods as the output of mills now controlled by the Corporation was formerly distributed through commission houses.

This change in the selling methods will hardly exert any influence over this season's business, as it has been the custom of the trade for the past twenty years to place their orders with the commission houses in the late summer and early fall to meet early requirements, and this practice will undoubtedly continue as orders of large volume are now being booked by such concerns for next year's consumption. The mechanical rubber goods trade has been greatly inconvenienced by the paucity of stock as despite every effort made by the duck manufacturers has been altogether inadequate to the demand which has not been as heavy in years as at the present time. It is not improbable that this experience will result in the placing of the full complement of orders much earlier this season than in previous years.

One condition materially contributing to short supply and advanced prices is the reduction of hours of labor in the cotton mills of South Carolina, in order to induce help to come from other states, which condition has resulted in an advanced price in the states so effected to prevent labor from being attracted to other sections.

The abrogated export demand has resulted in demoralizing the prices of sheetings. There has, however, been no appointment in the call either domestic or export for ducks twisted or flat. In former years the flat product commanded one or two cents less than the twisted, but at the present writing it is bringing a cent or two more per pound.

The new factory to be known as the Elm City Cotton Mills, which is being erected in La Grange, Georgia, for J. H. Lane & Co. (New York), will be a considerable factor in the cotton duck situation and will materially add to the available supply. The new factory will operate 10,400 spindles and heavy looms for the manufacture of heavy duck; this equipment equalling the requirement for a 30,000 spindle mill making yarns or sheetings.

WHICH HORSE WILL YOU PUT YOUR MONEY ON?—The gambling in rubber company shares in London, says the New York INDIA RUBBER WORLD, bears about as much relation to legitimate rubber planting as betting on horse races does to the world's practical use of the horse. To which London might reply that at any rate the horses are alive and above ground, which is more than can be said of some Mexican "deals."—*Times of Ceylon*.

CHEWING gum is dutiable at 40 per cent. *ad valorem* under the new tariff of Newfoundland.

REVIEW OF THE CRUDE RUBBER MARKET.

THE price situation is practically unchanged as compared with our report one month ago. The market has been quiet meanwhile, absolutely no business being reported in New York on some days. The absence of buying is to be attributed in part to the practice of many factories to take stock at midsummer, and to reduce stores of raw material in preparation therefor. The failure of prices to decline more, particularly since the Pará crop shows a considerable increase over the preceding year, must be taken as an indication that continued activity in the rubber manufacture is predicted by sellers.

European markets have continued quiet but firm. The Antwerp auctions have resulted in somewhat lower prices. Pará arrivals (including Caucho) for the season, up to June 26, amounted to 34,500 tons, against 33,060 tons for the whole crop year (July 1-June 30) 1904-05; 30,580 tons in 1903-04; and 29,850 in 1902-03. The new crop, therefore, is the largest ever reported.

Later.—While these lines are going through press the quotations have undergone a change, leaving the prices as stated materially lower than a month ago. This is the result, in part, of lower prices at Antwerp, on June 26, than were anticipated, by about 40 centimes per kilogram. The decline at New York applies to nearly every grade, though some have advanced slightly.

Following is a statement of prices of Pará grades, one year ago, one month ago, and on June 27—this date:

PARÁ.	July 1, '05.	June 1, '06	June 27.
Islands fine, new.....	128@129	120@121	118@119
Islands, fine, old.....	none here	none here	none here
Upriver, fine, new.....	130@131	124@125	123@124
Upriver, fine, old.....	132@133	125@126	124@125
Islands, coarse, new.....	72@73	64½@65	64½@65
Islands, coarse, old.....	none here	none here	none here
Upriver, coarse, new.....	95@96	90@91	90@91
Upriver, coarse, old.....	none here	none here	none here
Caucho (Peruvian) sheet....	72@73	72@72½	72@73
Caucho (Peruvian) ball....	80@81	84@85	85@86
Ceylon (Plantation) fine sheet.....			148@149

AFRICAN.		CENTRALS.	
Sierra Leone, 1st qual. 102	@103	Esmeralda, sausage. . .	87@88
Massai, red. 102	@103	Guayaquil, strip.	72@73
Benguella. 78	@79	Nicaragua, scrap.	84@85
Cameroon ball. 76	@77	Panama, slab.	62@63
Accra flake. 21½@22		Mexican, scrap.	85@86
Lopori ball, prime. . 114	@115	Mexican, slab.	60@61
Lopori strip, prime. . 103	@104	Mangabeira, sheet.	60@70
Madagascar, pinky. . 94	@95	Guayule.	35@40
Ikelemba. 115	@116	EAST INDIAN.	
Soudan nigger. s. . . 96	@97	Assam.	93@94
Late Pará cables quote:		Borneo.	44@49½

	Per Kilo		Per Kilo.
Islands, fine.	5½200	Upriver, fine.	6½400
Islands, coarse.	2½300	Upriver, coarse.	4½300

Exchange, 167½d.

Last Manáos advices:

Upriver, fine.	6½200	Upriver, coarse.	3½700
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Exchange, 161½d.

NEW YORK RUBBER PRICES FOR APRIL (NEW RUBBER).

	1906.	1905.	1904.
Upriver, fine.	1.25 @ 1.25	1.31 @ 1.34	1.07 @ 1.12
Upriver, coarse. ....	.92 @ .95	.96 @ .99	.84 @ .88
Islands, fine.	1.22 @ 1.25	1.27 @ 1.30	1.05 @ 1.09
Islands, coarse. ....	.70 @ .74	.73 @ .77	.64 @ .69
Cametá. ....	.72 @ .76	.76 @ .80	.64 @ .69

Statistics of Para Rubber (Excluding Caucho).

NEW YORK.

	Fine and Medium	Coarse	Total 1906	Total 1905	Total 1904
Stocks, April 30. tons	380	26	386	611	303
Arrivals, May.	719	478	1194	463	719
Aggregating.	1076	504	1580	1074	1022
Deliveries, May.	826	467	1293	496	695
Stocks, May 31.	250	37	287	578	327

PARÁ.

ENGLAND.

	1906.	1905.	1904.	1906.	1905.	1904.
Stocks, April 30. tons	267	496	110	1280	355	495
Arrivals, May.	1420	1660	1085	555	815	470
Aggregating.	1687	2156	1195	1835	1170	965
Deliveries, May.	1597	1791	1000	775	800	525
Stocks, May 31.	90	365	195	1060	370	440

	1906.	1905.	1904.
World's visible supply, May 31. tons	2078	2143	1537
Pará receipts, July 1 to May 31.	27,584	26,326	24,890
Pará Receipts of Caucho, same dates.	5245	5004	4204
Afloat from Pará to United States, May 31.	190	125	95
Afloat from Pará to Europe, May 31.	451	705	480

Ceylon (Plantation) Rubber Exports, 1906.

DETAILS—BY WEEKS.

	POUNDS.	POUNDS.	POUNDS.
January 1 to Apr. 23.	79,574	Total, 1906.	105,005
Week ending Apr. 30.	6,697	Same dates, 1905.	39,770
Week ending May 7.	3,426	Same dates, 1904.	28,693
Week ending May 14.	5,416	Same dates, 1903.	17,347
Week ending May 21.	9,892		

London.

EDWARD TILL & Co. report stocks [June 1]:

	1906.	1905.	1904.
Pará sorts. tons	—	—	—
Plantation, Ceylon and Straits.	38	—	—
Borneo.	56	27	22
Assam and Rangoon.	6	8	5
Penang.	222	224	—
Other sorts.	316	201	227
Total.	638	460	254

	1906.	1905.	1904.
Pará sorts. tons	1056	370	446
Caucho.	277	296	305
Other sorts.	512	518	662
Total, United Kingdom.	2483	1644	1667
Total, May.	2630	1515	1644
Total, April.	2108	1232	1367
Total, March.	1906	1204	1136
Total, February.	1539	1298	1341

PRICES PAID DURING MAY.

	1906.	1905.	1904.
Pará, fine, hard. 5 3 6 5 4	5 6 3 6 5 9	4 9 6 4 10 1½	
Do soft. 5 2 6 5 3 1½	5 6 3 6 5 8 1½	4 8 6 4 9 1½	
Negroheads, scrappy 3 10	6 3 10 1½	4 0 1½ 4 1	3 9
Do Cameta 3 0 1½	6 3 1½	3 3 1½ 3 4	2 11 6 3
Bolivian. 5 3 4	6 5 4	5 7 6 5 8 1½	4 10 6 4 11
Caucho, ball. 3 7	6 3 7 1½	3 4 6 3 0	3 3 1 4 3 5
Do slab. 2 11 1½	6 3 0 1½	3 1 6 3 2	2 10 1 2 11
Do tails.	6 3 4 1½	3 1 1½ 6 3 3	3 2 6 3 2 1½

THE LONDON AUCTIONS.

JUNE 8.—During the past week the market has been easier, and practically no business has been done, but closes slightly firmer. Sales reported were hard fine at 5s. 3d. on the spot and 5s. 3½d.

for July-August delivery. Soft fine 5s. 2d. nearest value. At today's auctions medium grades in slow demand at earlier prices. Para coarse 4s. 7½d.; Peruvian ball 3s. 6¼d.; Mollendo fine, rather weak 5s.; Colombian white sheet 3s. 4¼d.; Ecuador scrap 3s. 8d.; Madagascar pinky mixed 3s. 9d.

PLANTATION RUBBER.

JULY 1.—About 3 tons Ceylon and about 5 tons Straits and Malay States offered at auction to-day and most of it sold. Ceylon fine pale biscuits 6s. 0¼d. [= \$1 46½]; scrap up to 5d.; Ceará 6s. 0¼d. Straits at corresponding prices, including 25 cases from Bukit Rajah Rubber Co., large sheet mixed colors 6s. 0¼d. (a 6s. 0¼d.); red Rambong (*Ficus elastica*) 4s. 10½d. [= \$1 78½].

Liverpool.

EDMUND SCHLUTER & Co., report [May 31].

With a quiet demand and absence of speculation transactions in fine during the month show only a slight alteration in the value as against April. The visible supply shows a substantial reduction. With moderate receipts during June, the market will remain steady, or it may show a slight recovery.

WORLD'S VISIBLE SUPPLY OF PARÁ, MAY 31

	1906.	1905	1904	1903	1902
Tons.....	3710	2908	2036	3656	4362
Prices, hard fine 5/3¼	5 8½	4/10	3 10¼	3	

LIVERPOOL STOCKS OF AFRICAN RUBBER, MAY 31.

1906	367	1903	330	1900	834
1905	390	1902	592	1899	605
1904	567	1901	852	1898	423

WILLIAM WRIGHT & Co. report [June 1].

Fine Pará—There has been a little more activity but on the whole the market has been dull throughout the month, and prices are ½d. per pound easier. The demand in America has been dull. Although Pará receipts are larger than anticipated, the increase is entirely in Peruvian ball and slab; in fact the receipts of Fine, etc., are 260 tons less than corresponding month last year, making the total increase in the Pará crop only 680 tons. This will have its effect later on, and accounts for the caution exercised by sellers, especially as regards forward delivery, and also for the fact that in spite of the full demand there has been a small reduction in values.

TO THE EDITOR OF THE INDIA RUBBER WORLD: We are pleased to say we have recovered the stolen rubber mentioned in your last issue (page 308), with the exception of ½ ton, which the thieves had succeeded in disposing of in small lots. We beg to thank you for your help in this matter through the medium of your paper, and remain, Yours truly,

HYDES, LATHAM & Co.

Liverpool, June 12, 1906

Para.

R. O. AHLERS & Co. report [May 21].

The decline has made further progress in accordance with the home market, but actually affected very little our market, as the Sertao crop is finished and Islands entries continue moderate. It seems to be probable that entries from July to September will be heavier than usual, due to the early start of the work in the interior.

Bordeaux.

THERE has been organized here a *Syndicat du commerce des caoutchoues*, the statutes having been approved at a meeting of the members on March 27. *Revue Commerciale* regards Bordeaux as the French national market for rubber, the prominence of which will be enhanced by the new organization. Havre, however, it says, seeks to become the national market, in which encouragement is given by the *concessionnaires* of the Congo, who are mostly Belgians. While the French government compels the latter to have a port of transit in France, they desire to have it as near as possible to Belgium. The editor of the *Revue* would allow Havre to keep the

monopoly of the imports into France of Pará rubber, but if the Congo produce should be added to Bordeaux's present trade, the latter would become the most important rubber market in the world. The government is asked to take off certain trade restrictions, and the French colonial banks to come to a better understanding of how they can assist in the development of the home rubber market. The members of the new rubber syndicate are:

Importers: Arcin Georges et Cie., Buhan et Teisseire, Delmas et Cie., Devès, Chaumet et Cie., Maurel et Prom.

Merchants: R. Henry; Mercet Sauliere, Touton et Crous, Weill frères, Yorke et Furon.

Brokers: E. Chaumel, F. Faucher.

Hamburg.

AN import and commission business in India-rubber, Guttapercha, and Balata has been established here under the style Ullmann Gebrüder & Co., with a branch in Paris, Ullmann Frères et Cie. The partners are Jacques Ullmann, J. Ullmann, H. Hammer, and E. Eggers (limited partner).

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: At the sale of May 30 the transaction comprised the following quantities:

	Exposed.	Sold.
Congo sorts.....	299	292
Other sorts.....	29	13
Total.....	328	305

Prices were very irregular, the average comes out at 20 @ 25 centimes—i. e., about 2 per cent. below valuation. The demand was moderate, as customary at this time of the year. The next large sale will take place on June 26, when 415 tons will be exposed. The usual Congo sorts, viz., Uelé, Aruwimi, Upper Congo ball, Kasai, and Congo-Djuma are represented with big lots. A small sale was held on June 15. Of 35 tons 25 were disposed of at somewhat irregular and partly lower prices.

C. SCHMID & CO., SUCCESEURS.

Antwerp, Belgium, June 1, 1906.

[THE offerings on June 26 included 1239 kilos Bolivian, 5753 maniçoba (Ceara), and 4151 mangabeira. Also, 5200 kilos Guayule rubber, estimated at 7.25 francs [= 63½ cents per pound]. Also, 13 kilos African plantation rubber, estimated at 14 francs.]

RUBBER ARRIVALS AT ANTWERP.

APRIL 17.—By the *Philippeville*, from the Congo:

Bunge & Co. (Société Generale Africaine) kilos	85,000
Do	59,000
Do	18,000
Do	1,500
Do	34,000
Do	101,000
Do	19,000
Do	700
Do	2,000
M. S. Cols	3,800
Société Coloniale Anversoise (Cie. de Lomami)	11,000
Do	6,700
Do	2,700
Do	3,700
Comptoir Commercial Congolais.....	2,000
Charles Dethier..... (Société La "M'Poko")	10,500 360,600

MAY 30.—By the *Philippeville*, from the Congo:

Bunge & Co. (Société Generale Africaine) kilos	137,000
Do	14,000
Do	23,000
Do	2,000
Comptoir Commercial Congolais.....	18,000
L. & W. Van de Velde..... (Cie. du Kasai)	55,000
Ch. Dethier	1,000
M. S. Cols..... (Société l' Ikelemba)	500
Do	1,000
Société Coloniale Anversoise (Belge du Haut Congo)	8,000
Do	500
Do	5,000
Do	2,000
Cie. Commerciale des Colonies (La Haute Sangha)	10,000
Société Equatoriale Congolaise Société l' Ikelemba)	2,000 279,000

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

June 4.—By the steamer *Bernard*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
A. T. Morse & Co.....	76,900	19,700	37,200	16,400=	150,200
N. Y. Commercial Co.....	35,400	11,700	56,000	121,600=	
Poel & Arnold.....	7,100	47,100	3,800	.....	58,000
General Rubber Co.....	3,200	15,100	8,000	4,600	30,900
Edmund Reeks & Co.....	5,800	2,100	15,400	7,900	31,200
Hagemeyer & Brunn.....	10,100	700	11,300	.....	22,100
Neale & Co.....	3,200	300	15,100	300=	18,900
G. Amsinck & Co.....	4,300	4,300	1,500	200	10,300

Total..... 146,000 101,000 148,300 47,900= 443,200

June 14.—By the steamer *Maranhense*, from Pará:

N. Y. Commercial Co.....	9,700	300	34,200	....=	44,200
C. P. dos Santos.....	16,800	6,100	10,400	3,700=	37,000
A. T. Morse & Co.....	17,300	700	9,200	9,800=	37,000
Hagemeyer & Brunn.....	21,700	2,000	9,400	....=	33,100
Poel & Arnold.....	.....	.....	33,200	....=	33,200
Edmund Reeks & Co.....	11,600	2,000	5,900	4,800=	24,300
G. Amsinck & Co.....	22,700	100	1,200	....=	24,000
Neale & Co.....	.....	.....	8,200	....=	8,200
General Rubber Co.....	1,000	.....	1,200	....=	2,200

Total..... 100,800 11,200 112,900 18,300 243,000

PARA RUBBER VIA EUROPE.

CENTRALS—Continued

CENTRALS—Continued.

POUNDS.		
MAY 31.—By the <i>Carmania</i> =Liverpool:		
New York Commercial Co (Fine).....	19,000	
Poel & Arnold (Caucho).....	3,500	22,500
JUNE 11.—By the <i>Umbria</i> =Liverpool:		
New York Commercial Co (Fine).....	29,000	
JUNE 13.—By the <i>Oceanic</i> =Liverpool:		
Arana Bergman Co (Caucho).....	28,000	
JUNE 16.—By the <i>La Savoie</i> =Havre:		
Poel & Arnold (Caucho).....	29,000	
JUNE 18.—By the <i>Campania</i> =Liverpool:		
New York Commercial Co (Fine).....	17,000	
A. T. Morse & Co (Coarse).....	11,500	28,500
JUNE 21.—By the <i>Teutonic</i> =Liverpool:		
Poel & Arnold (Coarse).....	3,500	
JUNE 22.—By the <i>Wallersee</i> =Hamburg:		
George A. Alden & Co (Fine).....	42,000	
Poel & Arnold (Fine).....	11,500	53,500

JUNE 4.—By the <i>Alhambra</i> =Colon:		
Dumarest Bros. & Co.....	3,500	
Hirzel, Feltman & Co.....	2,500	
Mann & Emdon.....	2,100	
G. Amsinck & Co.....	1,500	
Laurence Johnson & Co.....	1,400	
Roldan Van Sickle.....	1,200	
A. M. Capens Sons.....	1,100	
Meyer Hecht.....	700	
Kunhardt & Co.....	600	
R. G. Barthold.....	600	15,500

JUNE 4.—By the <i>Vigilancia</i> =Frontera:		
Harburger & Stack.....	10,000	
E. Steiger & Co.....	1,500	
H. Marquardt & Co.....	1,500	
E. N. Tibbals & Co.....	1,500	14,500

JUNE 5.—By the <i>Minnetonka</i> =London:		
General Rubber Co.....	80,000	

JUNE 6.—By the <i>El Siglo</i> =Galveston:		
Continental & Mexican Co.....	35,000	

JUNE 6.—By the <i>Cameons</i> =Bahia:		
Adolph Hirsch & Co.....	17,000	
American Commercial Co.....	1,500	18,500

JUNE 6.—By the <i>Sarnia</i> =Colombia:		
A. Held.....	4,500	
American Trading Co.....	2,500	
Cortez Commercial Co.....	2,000	
D. A. Delima & Co.....	1,000	
Isaac Brandon & Bros.....	1,000	
Kunhardt & Co.....	700	11,700

JUNE 8.—By the <i>Finance</i> =Colon:		
G. Amsinck & Co.....	6,600	
Meyer Hecht.....	4,500	11,100

JUNE 8.—By the <i>El Mar</i> =Galveston:		
Continental & Mexican Co.....	35,000	

JUNE 9.—By the <i>Yucatan</i> =Tampico:		
Edward Maurer.....	29,000	
New York Commercial Co.....	10,000	39,000

JUNE 9.—By the <i>El Monte</i> =New Orleans:		
A. N. Rotholz.....	3,500	
Manhattan Rubber Mfg Co.....	2,000	5,500

JUNE 9.—By the <i>Monterey</i> =Mexico:		
G. Amsinck & Co.....	3,500	
Graham, Hinkley & Co.....	1,500	
Thebaud Brothers.....	1,000	
H. Marquardt & Co.....	2,500	
American Trading Co.....	500	
Harburger & Stack.....	500	9,500

JUNE 11.—By the <i>St. Paul</i> =London:		
Poel & Arnold.....	55,000	

JUNE 11.—By the <i>Patricia</i> =Hamburg:		
J. H. Rossback & Bros.....	9,000	

JUNE 12.—By the <i>Colon</i> =Colon:		
E. B. Strout.....	2,700	
Mann & Emdon.....	2,500	
Meyer Hecht.....	1,800	
Piza, Nephews & Co.....	1,000	8,000

JUNE 12.—By the <i>Alleghany</i> =Colombia:		
United Fruit Co.....	1,500	
H. S. Henry Co.....	1,000	
Isaac Brandon & Bros.....	1,000	
Mecke & Co.....	700	
Sperling & Williams.....	500	
C. A. del Gado.....	500	5,200

JUNE 13.—By the <i>Chalmette</i> =New Orleans:		
A. T. Morse & Co.....	8,500	
G. Amsinck & Co.....	3,000	11,500

JUNE 14.—By the <i>Atrato</i> =Carribsen:		
George A. Alden & Co.....	3,200	
G. Amsinck & Co.....	2,500	
J. A. Medina & Co.....	1,500	
Mecke & Co.....	700	
E. B. Strout.....	600	8,500

JUNE 15.—By the <i>El Dia</i> =Galveston:		
Continental Mexican Co.....	55,000	

JUNE 15.—By the <i>Campania</i> =Liverpool:		
George A. Alden & Co.....	13,500	
Poel & Arnold.....	3,500	17,000

JUNE 18.—By the <i>Seguranca</i> =Frontera:		
Harburger & Stack.....	10,000	
E. Steiger & Co.....	3,500	
H. Marquardt & Co.....	2,500	
Graham, Hinkley & Co.....	1,000	
E. N. Tibbals Co.....	500	17,500

JUNE 18.—By the <i>El Dorado</i> =New Orleans:		
A. T. Morse & Co.....	15,500	
Thebaud Brothers.....	1,500	
Eggers & Heinlein.....	1,500	18,500

JUNE 18.—By the <i>Advance</i> =Colon:		
Hirzel Feltman & Co.....	9,300	
E. B. Strout.....	4,700	
G. Amsinck & Co.....	3,300	
Wessels, Kulemkamp Co.....	2,800	
Aramburo Incepta.....	2,500	
Edward Maurer.....	1,000	
Silva Bussenius Co.....	700	
Meyer & Hecht.....	500	
A. S. Lascellas & Co.....	500	
Bartling & De Leon.....	600	25,000

JUNE 19.—By the <i>Seneca</i> =Tampico:		
Edward Maurer.....	22,500	
H. Marquardt & Co.....	1,000	
American Trading Co.....	500	24,000

JUNE 19.—By the <i>Sibiria</i> =Colombia:		
Kunhardt & Co.....	2,000	
Roldan & Van Sickle.....	1,200	
Isaac Brandon & Bros.....	800	
American Trading Co.....	500	
A. D. Straus & Co.....	500	5,000

JUNE 20.—By the <i>Byron</i> =Bahia:		
A. D. Hitch & Co.....	55,000	
American Commercial Co.....	3,500	
Adolph Hirsch & Co.....	3,000	
Laurence Johnson & Co.....	1,000	62,500

AFRICANS.

POUNDS.

MAY 24.—By the <i>Teutonic</i> =Liverpool:		
Poel & Arnold.....	110,000	
General Rubber Co.....	54,000	
George A. Alden & Co.....	22,000	
A. T. Morse & Co.....	7,500	193,500

MAY 25.—By the <i>Pennsylvania</i> =Hamburg:		
A. T. Morse & Co.....	11,000	
George A. Alden & Co.....	11,000	
Poel & Arnold.....	4,000	
Rubber Trading Co.....	4,500	30,500

MAY 28.—By the <i>Cedric</i> =Liverpool:		
A. W. Brunn & Co.....	12,500	

MAY 28.—By the <i>Etruria</i> =Liverpool:		
General Rubber Co.....	15,000	
A. T. Morse & Co.....	9,000	24,000

MAY 29.—By the <i>Minnehaha</i> =London:		
George A. Alden & Co.....	23,000	
General Rubber Co.....	50,000	
Raw Products Co.....	4,500	77,500

MAY 31.—By the <i>Carmania</i> =Liverpool:		
General Rubber Co.....	58,000	
A. W. Brunn & Co.....	22,500	
Poel & Arnold.....	12,000	
George A. Alden & Co.....	11,000	103,500

JUNE 2.—By the <i>Ratavia</i> =Hamburg:		
A. T. Morse & Co.....	27,000	
George A. Alden & Co.....	5,000	32,000

JUNE 2.—By the <i>Lucania</i> =Liverpool:		
George A. Alden & Co.....	29,000	
F. R. Muller Co.....	12,000	
A. T. Morse & Co.....	5,000	
Henry A. Gould Co.....	5,000	51,000

OTHER ARRIVALS AT NEW YORK

CENTRALS.

POUNDS.

MAY 25.—By the <i>Advance</i> =Colon:		
Hirzel Feltman & Co.....	3,500	
Dumarest Bros. & Co.....	3,200	
A. Santos & Co.....	2,900	
Roldan & Van Sickle.....	2,300	
G. Amsinck & Co.....	1,800	
Lanman & Kemp.....	1,700	
Mann & Emdon.....	1,500	
A. Rosenthal Sons.....	1,500	
A. Sanders & Co.....	1,200	
Laurence Johnson & Co.....	1,000	
Wessels, Kulemkamp Co.....	900	
R. G. Barthold.....	500	
W. R. Grace & Co.....	500	22,500

MAY 28.—By the <i>Esperanza</i> =Frontera:		
Harburger & Stack.....	6,500	
E. Steiger & Co.....	1,000	
Graham, Hinkley & Co.....	500	8,000

MAY 28.—By the <i>Panama</i> =Colon:		
Hirzel, Feltman & Co.....	5,000	
G. Amsinck & Co.....	4,400	
Piza, Nephews & Co.....	1,000	
Mann & Emdon.....	600	11,000

MAY 28.—By the <i>Niagara</i> =Tampico:		
Edward Maurer.....	22,500	

MAY 29.—By the <i>Comus</i> =New Orleans:		
A. T. Morse & Co.....	8,500	
G. Amsinck & Co.....	3,500	
Manhattan Rubber Mfg. Co.....	1,500	
Eggers & Heinlein.....	1,000	14,500

MAY 31.—By the <i>Tagus</i> =Carribsen:		
A. M. Capens Sons.....	4,000	
George A. Alden & Co.....	3,300	
David Midgeley Sons.....	2,500	
G. Amsinck & Co.....	2,000	
American Trading Co.....	1,000	
Mecke & Co.....	1,000	
Thurin & Lartegan.....	1,000	
A. Held.....	800	
Isaac Brandon & Bros.....	700	
Roldan & Van Sickle.....	600	
Aramburo Incepta.....	600	17,500

MAY 31.—By the <i>Carmania</i> =Liverpool:		
George A. Alden & Co.....	28,400	
H. W. Peabody & Co.....	2,500	30,900

JUNE 2.—By the <i>Manzanillo</i> =Tampico:		
European Account.....	25,000	
Continental & Mexican Co.....	7,500	32,500

JUNE 4.—By the <i>Proteus</i> =New Orleans:		
G. Amsinck & Co.....	1,200	
Eggers & Heinlein.....	800	2,000

AFRICANS—Continued.

By the <i>La Lorraine</i> —Havre		
General Rubber Co.	25,000	
George A. Alden & Co.	15,000	40,000
By the <i>Kronprinz</i> —Antwerp:		
A. T. Morse & Co.	3,000	
Rubber Trading Co.	1,000	4,000
JUNE 7.—By the <i>Marectic</i> —Liverpool:		
A. T. Morse & Co.	8,000	
George A. Alden & Co.	5,500	13,500
JUNE 11.—By the <i>Celtic</i> —Liverpool:		
General Rubber Co.	45,000	
George A. Alden & Co.	2,000	
Poel & Arnold	2,800	54,500
JUNE 11.—By the <i>Patricia</i> —Hamburg:		
A. T. Morse & Co.	25,000	
Rubber Trading Co.	6,000	31,000
JUNE 12.—By the <i>Zeeland</i> —Antwerp:		
Western Electric Co.	26,000	
Rubber Trading Co.	4,500	30,500
JUNE 13.—By the <i>Caronia</i> —Liverpool:		
A. W. Brunn & Co.	1,500	
George A. Alden & Co.	1,500	3,000
JUNE 13.—By the <i>Oceanic</i> —Liverpool:		
Poel & Arnold	7,000	
Rubber Trading Co.	7,000	14,000
JUNE 16.—By the <i>Pretoria</i> —Hamburg:		
A. T. Morse & Co.	11,000	
Rubber Trading Co.	3,000	14,000
JUNE 18.—By the <i>Campania</i> —Liverpool:		
General Rubber Co.	11,500	
George A. Alden & Co.	11,500	
Rubber Trading Co.	7,000	
Earle Brothers	4,500	34,500
JUNE 19.—By the <i>Lincoln</i> —Antwerp:		
George A. Alden & Co.	200,000	
Poel & Arnold	1,000	
Rubber Trading Co.	5,000	215,000
JUNE 19.—By the <i>Civic</i> —Liverpool:		
General Rubber Co.	125,000	
George A. Alden & Co.	50,000	181,000
JUNE 21.—By the <i>Trenton</i> —Liverpool:		
A. W. Brunn & Co.	11,500	
A. T. Morse & Co.	4,500	
Poel & Arnold	4,500	20,500
JUNE 22.—By the <i>Legnac</i> —Bordeaux:		
General Rubber Co.	25,000	

AFRICANS—Continued.

JUNE 22.—By the <i>Waldsee</i> —Hamburg:		
Poel & Arnold	9,000	
George A. Alden & Co.	5,500	
A. T. Morse & Co.	4,500	19,000

EAST INDIAN.

MAY 28.—By the <i>St. Louis</i> —London:		
A. T. Morse & Co.	15,000	
MAY 29.—By the <i>Minnehaha</i> —London:		
Robinson & Stiles	15,000	
George A. Alden & Co.	4,500	
C. Van Postel Co.	2,500	25,000
JUNE 1.—By the <i>Verona</i> —Singapore:		
George A. Alden & Co.	40,000	
Winter & Smith	10,000	
Pierre T. Betts	6,500	
Poel & Arnold	6,500	63,000
JUNE 5.—By the <i>Minnetanka</i> —London:		
George A. Alden & Co.	3,500	
A. T. Morse & Co.	2,000	5,500
JUNE 7.—By the <i>Barotse</i> —Calcutta:		
George A. Alden & Co.	4,500	
JUNE 7.—By the <i>Shimosa</i> —Singapore:		
H. Ranoli & Co.	10,000	
JUNE 11.—By the <i>Meraba</i> —London:		
George A. Alden & Co.	5,000	
JUNE 15.—By the <i>Swa-ti</i> —Colombo:		
George A. Alden & Co.	16,000	
A. T. Morse & Co.	3,000	19,000
JUNE 18.—By the <i>New York</i> —London:		
Poel & Arnold	6,500	
JUNE 18.—By the <i>Kennebec</i> —Singapore:		
George A. Alden & Co.	22,500	
Heabler & Co.	15,000	
Poel & Arnold	25,000	
Pierre T. Betts	15,000	
F. R. Muller & Co.	8,000	
A. W. Brunn & Co.	5,000	90,500
JUNE 18.—By the <i>Minneapolis</i> —London:		
Robinson & Stiles	7,500	
C. Van Postel Co.	2,500	10,000

GUTTA-JELUTONG.

JUNE 1.—By the <i>Verona</i> —Singapore:		
Heabler & Co.	640,000	
H. Ranoli & Co.	200,000	
Max Ischal	2,000	840,000

EAST INDIAN.—Continued.

Pierre T. Betts	25,000	
Poel & Arnold	25,000	1,000,000
JUNE 7.—By the <i>Shimosa</i> —Singapore:		
Poel & Arnold	56,000	
JUNE 18.—By the <i>Kennebec</i> —Singapore:		
Heabler & Co.	550,000	
Poel & Arnold	100,000	
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JUNE 2.—By the <i>Amerika</i> —Hamburg:		
To Order	7,000	
JUNE 12.—By the <i>Me-aba</i> —London:		
To Order	10,000	
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Kempshall Manufacturing Co.	2,000	14,500
JUNE 22.—By the <i>Waldsee</i> —Hamburg:		
To Order	7,000	
BALATA.		
MAY 28.—By the <i>Grenada</i> —Trinidad:		
Thebaud Brothers	1,500	
Raw Products Co.	1,000	2,500
JUNE 2.—By the <i>Amerika</i> —Singapore:		
Earle Brothers	7,000	
JUNE 18.—By the <i>Campania</i> —Liverpool:		
F. R. Muller & Co.	6,500	
JUNE 18.—By the <i>Minneapolis</i> —London:		
George A. Alden & Co.	8,500	

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—MAY.

Imports:	Pounds.	Value.
India-rubber	4,250,787	\$3,458,936
Gutta-percha	14,716	10,941
Gutta-jelutong (Pontianak)	414,151	12,960
Total	4,679,654	\$3,482,837
Exports:	Pounds.	Value.
India-rubber	95,954	\$ 87,498
Reclaimed rubber	150,602	19,316
Rubber scrap imported	1,032,136	\$30,826

OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.				GREAT BRITAIN.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
April, 1906.	5,231,332	247,195	5,584,143	April, 1906.	6,200,096	2,769,760	3,430,336
January-March.	16,097,424	922,559	18,115,065	January-March.	17,647,108	9,875,824	7,771,344
Four months, 1906.	24,928,962	1,229,754	23,699,208	Four months, 1906.	23,847,264	12,645,584	11,201,680
Four months, 1905.	32,606,023	1,134,713	31,471,310	Four months, 1905.	21,776,608	12,835,096	8,941,512
Four months, 1904.	28,222,397	1,126,691	27,095,706	Four months, 1904.	21,209,264	12,833,414	8,465,850
GERMANY.				ITALY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
April, 1906.	2,663,760	502,260	2,161,500	April, 1906.	252,780	27,500	225,280
January-March.	11,896,500	3,451,700	8,444,700	January-March.	705,760	70,180	635,580
Four months, 1906.	14,560,260	3,954,000	10,606,260	Four months, 1906.	958,540	97,680	860,860
Four months, 1905.	14,879,480	4,774,540	10,004,940	Four months, 1905.	533,280	70,400	462,880
Four months, 1904.	12,443,780	3,779,600	8,664,180	Four months, 1904.	598,180	25,960	572,220
FRANCE.*				BELGIUM †			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
April, 1906.	3,182,080	1,588,200	2,123,880	April, 1906.	1,388,492	1,352,047	36,445
January-March.	8,984,360	4,179,340	4,805,020	January-March.	5,708,573	2,821,909	2,886,664
Four months, 1906.	12,166,440	5,237,540	6,928,900	Four months, 1906.	7,097,065	4,173,956	2,923,109
Four months, 1905.	16,216,580	5,512,000	10,704,580	Four months, 1905.	6,272,223	4,076,729	2,195,494
Four months, 1904.	7,645,220	5,028,700	2,616,460	Four months, 1904.	6,031,542	5,154,098	877,444

NOTE.—German statistics before Jan. 1, 1906, include Gutta-percha, Balata, and old (waste) rubber. British figures include old rubber. French, Austrian, and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

*General Commerce.

†Special Commerce.

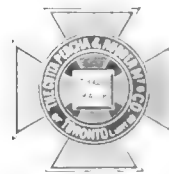
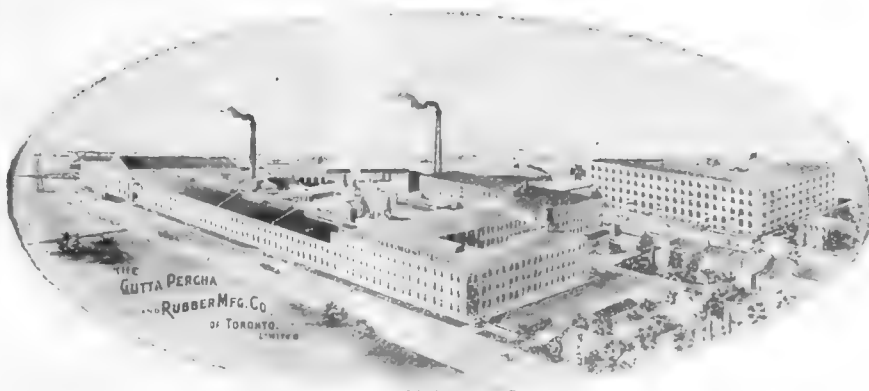
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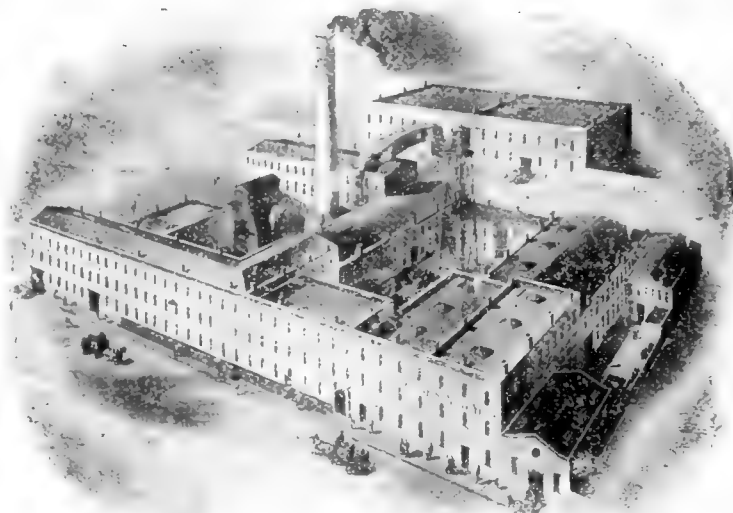
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THE CONTINUAL NEED FOR RUBBER.

A FACT deserving of more attention than in a mere "trade note" is that rubber was chosen for the flooring material of a building recently erected in Boston by a religious society—one of the most costly churches in the country, and one in planning which the effort was made to render every feature as attractive as possible. The interior decoration received special attention, involving the study of color effects by artists of note, and yet the flooring material chosen was made to afford pleasing effects, in harmony with the general scheme.

Most people are accustomed to seeing rubber flooring used in exposed conditions, as on steamer decks, or in public places, involving excessive wear, as in courtrooms, but such material usually has been chosen rather for utility than for decorative effect. But if rubber flooring is suited for a magnificent church, why not for libraries, schools, and even dwellings—not only for floors, but in many places for wall tiling?

Its general merit has been proved, except that some people have not considered it attractive enough, and some probably have objected to it as being unconventional. Anything, however, that is really desirable is capable of becoming "conventional," and doubtless the chief deterrent now to the use of rubber tiling is the cost. As its advantages become better known, however, the cost will seem less objectionable. Besides, the cost of raw rubber must decrease in time, opening the way to its constantly widening use.

So long as everybody cannot confine his walking to rubber floors, ease in walking may be promoted by wearing rubber heels when one treads hard surfaces. It is asserted that the king of England wears such heels on his boots, and we have no reason to doubt it. His influence has always been marked in matters of dress, but the Britishers have not waited for their monarch to set the fashion of wearing rubber heels. So general is the custom that large factories there are devoted to making rubber heels alone, turning them out by the million. Nor is this solely an English custom; rubber heels are worn wherever Britishers roam, and are made in Canada and Australia, while their production is also very large in America.

If we had time to go over the whole field of trade, the facts which could be gleaned in regard to the uses of rubber in small specialties—small in comparison with automobile tires, at least—would more than fill all our space. Carpet sweepers having rubber parts are sold by millions; clothes wringers with rubber rolls are used wherever civilization exists; rubber stamps are found in business houses all around the world. And this only begins the list. We have referred to the whole subject, to lead up to the conclusion that the world will continue to use more and more rubber, so that overproduction of this commodity—to the extent of making the production unprofitable—is not to be thought of in our era.

RUBBER GATHERING SCHOOLS.

THE importance of French Africa as a rubber producing region has been referred to many times in these pages. Not only is there a large area, rich in rubber of a desirable quality, but the progressive policy of the administration promises to make the most of this natural wealth, instead of allowing the rubber finally to disappear, as has happened in many other parts of the world. The French apparently have strengthened their authority continually in their West African possessions, gaining and holding the confidence of the native chiefs, to the extent that governmental regulations are neither a dead letter nor enforceable only by means of armed troops. All of which, of course, was an essential preliminary to any effective regulation of rubber gathering.

The authorities in the region referred to have striven to prevent the adulteration of rubber, with the result that the yield from some localities, after having fallen in price in the markets, is again taking high rank and bringing better prices. Likewise, every effort has been made to protect the rubber plants from destruction, though how much can be done in this respect remains to be proved. But the authorities have gone further. The culture of rubber is encouraged in various ways, with a view to the natives benefiting thereby, and actual planting has been done in a number of places.

Not least in importance of the steps taken by the administration is the establishment of schools for the instruction of the natives in rubber planting and in the collection of rubber, whether from native or cultivated trees. This work has been in charge of the very efficient inspector of agriculture for French West Africa, M. Yves Henry, who lately has visited Europe with a view to learning better how to prepare rubber to fit it for the requirements of the consumer. He has made a study, too, of the best species for planting under different conditions.

We do not suppose, of course, that the world's production of rubber is going to be modified largely in the near future by these rubber planting schools, but the capacity of the natives to learn better planting methods appears established, and the one thing remaining is to tempt them to habits of industry by teaching them new wants which can be met only by working. The idea of such schools is creditable to its author and deserves adoption in other regions.

OKLAHOMA, THE FORTY-SIXTH STAR in the American galaxy, makes her advent as a State with a larger actual population than could be claimed by any of her sisters on first attaining statehood. In fact, twenty older states contain fewer people to-day. Not that the number of its citizens counts most in the rank of a state, but the more good citizens the better, and the Oklahomans will suffer by comparison with none in independence, energy and the other qualities which from the birth of the nation have made for its material and moral progress. The West has never been lacking in the production of strong men, the newest

state taking rank in this respect with the older, so that Oklahoma may be regarded not as a fledgling, but as a full grown member of a family the strength of which is shared by all its members. Leaving all other considerations aside, the settlement of the new state broadens the field for American industry and trade, her people having started, so to speak, beyond the condition of being merely self supporting, and able to buy on the liberal American scale. It is the continual development of such new states during the past century—a work surpassing the colonial expansion of any European power—that has made this country so little interested, comparatively, in the development of trade abroad.

THE WORLD'S PRODUCTION OF RUBBER during the year ended June 30 was, by all accounts, the largest for any year in the history of the trade. The fact that prices have been maintained at so high a figure indicates, first, a heavy rate of consumption, and, secondly, uncertainty as to the size of next year's supplies. Nothing in commerce is more uncertain than how much rubber will be available in any year, and as a heavy demand can always be counted, an increase of a few hundred tons in the world's visible supply does not put holders of crude rubber in a panic to sell.

WHAT APPEARS WORTH A NOTE IN PASSING is that a leading financial journal in Boston, where public attention was recently attracted for a month to a trial which led to the conviction of a rubber plantation company promoter for dishonest practices, comes out with an article in defense of rubber planting. "The real difficulty," says this journal, "was not as to the growing of rubber in Mexico, but it is in the mismanagement and fraud as practiced by Owen and Borges."

A READABLE STORY RELATING TO MEXICO and entitled "A Home on a Rubber Plantation" appears in the fiction department of one of our contemporaries. It has just occurred to us that very many articles published on rubber in Mexico do not have to be placed in any particular department for them to be recognized as fiction.

PROSPERITY HAS BECOME THE RULE IN GERMANY again, apparently on a more general scale than before the trade depression of a few years ago. The rubber industry appears to have had its full share in the improved conditions, judging from the increased consumption of raw materials, the extension of factory capacity, and the larger dividends declared by the leading companies.

THE NEW BRAZILIAN TARIFF LAW makes a concession of 20 per cent. in the duty on ice boxes imported from the United States. Ice boxes would make very good packing cases for the shipment of fine rubber, and the reduced rate probably is intended as a measure for the encouragement of the rubber interest. The reduction is also applied to flour, which some people have been unkind enough to suggest makes an excellent "filler" for crude rubber.

IT WOULD SEEM, from a study of the patent office issues, that every suggestion possible to be made for rendering tires puncture proof has been exploited, except the treatment of compressed air to prevent it from escaping when a puncture occurs.



NEW ENGLAND RUBBER CLUB ON STEPS AT POINT SHIRLEY CLUB.

NEW ENGLAND RUBBER CLUB OUTING.

A SINGULAR feature about the midsummer outings of the New England Rubber Club is that the last is always the best. This is hardly a fair statement of the outing that took place on Wednesday, July 18, for that turned out to be a bit better than the best. It was a departure in every way from those heretofore held and so arranged that the interest was kept up from start to finish.

To begin with, the Club were really guests of the United States government—that is, for a time, and a little later the representatives of the government were guests of the Club. It happened this way: Commanding Officer, Captain Charles E. Kilbourne, U. S. A., of Fort Andrews, Boston harbor, placed the island known as Peddocks at the disposal of the Club for the afternoon. At the same time Captain Ira L. Fredendell, the Depot Quartermaster at Boston, got permission from Washington and placed the fine new government transport tug at the disposal of the Club for the water journey. At 1.30, therefore, the Club, its officers, and the representatives of the United States army met at Commercial wharf and with the Lynn Cadet Band playing, and flags flying, the exceedingly jolly party, numbering 160, started down the harbor. Landing at Peddocks they formed four deep and marched to the ball ground. Here Captain Kilbourne had erected a commissary tent where the thirsty could refresh themselves and had also placed seats on the sloping hillside which formed a fine grand stand from which to view the game.

The baseball game was between the Manufacturers and the Importers and was hotly contested. Indeed, some of the playing approached closely to the professional order, it was so good. Then, too, some of the plays were exceedingly good because they were so funny. Captain Kilbourne acted as umpire and came safely through the ordeal with no abrasions and loss of no prestige. The score was 4 to 1 in favor of the Importers. The runs were made by F. C. Hood, who captured the only one made by the Manufacturers, while for the Importers and Brokers, Chipman made two runs, Farrington one, and Kelley one. The following list is that of the players and their positions:

MANUFACTURERS

Webster, p.
Stevens, l. f.
Hood, 2b.
Allen, s. s.
Hurley, 3b.
Pierson, 1b.
Palmer, r. f.
Knowlton, c. f.
Tyer, c.

IMPORTERS AND BROKERS

Chipman, 2b.
Currier, s. s.
Farrington, c.
Kelley, 3b.
Stedman, c. f.
Wadbrook, 1b.
Kiley, p.
Ashley, l. f.
McAloon, r. f.

The next move on the program was the water journey to Point Shirley Club, for dinner. As the government transport was in use at just that hour, two tugs were ready, upon which the members of the Club and their guests embarked, and in which they enjoyed an hour's sail around the beautiful islands in the harbor. At 6 o'clock they drew up at the pier at the fine new Point Shirley Club house and after

being photographed were ushered in to dinner. The photographing, by the way, was done by Chickering, who sends his best man and then supplies the pictures to those of the Club members who desire them at so much per. He was able to secure a very cheerful crowd this time, because just as the camera clicked, Mr. Galloway remarked in an audible aside: "Make a noise like a dollar."

The dinner was one of the famous fish dinners that have been for years supplied at this very spot, formerly "Taft's" and was in every way satisfactory. With the band on the veranda and the good singers of the Club at their best, music was a special feature during and between the courses. Two impromptus, however, were noteworthy. One where R. J. Owens, who has a fine bass voice, sang the Stein song, the Club joining in the chorus, and another when E. E. Wadbrook, in a rich baritone, sang a popular song in the chorus of which the Club also joined heartily. Both of these songs were called for by President Paul, and following them came an impromptu on the part of Mr. Solbery, who in a clear tenor sang two popular songs much to the delight of the feasters.

After coffee, President Paul said some nice things about the former presidents, told a good story, and asked the Editor of THE INDIA RUBBER WORLD to respond to the toast "Our Guests." This he did with enthusiasm and the assistance of various members of the Club, who interjected so many jolly suggestions that one would almost have thought that it was a session of the famous Gridiron Club.

Captain Kilbourne was then called upon to speak for "The Army," and made a rattling good speech—perhaps

the best offhand effort that the Club has ever listened to. Without going into details the trend of the thought was that the civilians should get nearer to the army officer and the army officer know the civilian much better. His speech was eloquent and witty and received with the utmost enthusiasm. Indeed the result of it upon the members of the Club was a higher respect for our army and the very pronounced popularity of the speaker and his brother officers. The other officers in attendance, (the captains of all the forts in the harbor were invited), were Captain J. E. Weyke, Lieutenant Winslow, and Dr. Peck the "medico" at Fort Andrews.

Following the Captain's speech was that of George E. Puchta, of the Queen City Supply Co. (Cincinnati), which was an aggregation of good stories exceedingly well told. Mr. E. E. Wadbrook also told a good military story, or rather naval story, which was well received.

On the return trip to Boston, Professor Robert W. Wood, of the Johns Hopkins University, a brilliant young physicist, convulsed the crowd in the main cabin by a series of stories in dialect.

THE workers at the Club dinner this year were Francis H. Appleton who secured the regular Army and through his friendship with the officers got for the Club many unusual favors, George H. Mayo, the chairman of the entertainment committee, Robert L. Rice, the assistant secretary and the usual helpful ones Messrs. Whitmore, Wadbrook, and Jones.

There were a number of western men present at the Outing, notable among them being George S. Andrus, La Crosse, Wis., and George L. Puchta, Cincinnati.



NEW ENGLAND RUBBER CLUB AT PEDDOCK'S ISLAND, AFTER THE BALL GAME.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

SAMPLES of commercial rubber have been chemically examined by D. Spence, whose results appear in the last *Quarterly Journal* of the Institute of Commercial Research in the Tropics. Without wishing in any way to question the accuracy of any of the figures, even if I might doubt their utility, it must be said that some of them are rather surprising. From the figures alone it would appear that Rangoon rubber, from Burma, is a much better article than Pará from South America, the percentage of rubber being 84.63 in the former case and only 71.09 in the latter. The resin in the former is higher, 6.81 per cent. against 2.73, but the residue, which I suppose means fiber and dirt, is put at 8.16 for the Rangoon and 11.71 per cent. for the Pará. Leaving the other samples out of consideration, the sample of hard cure Pará from South America, which gave 71.09 per cent. of rubber, 14.30 per cent. water, 2.73 per cent. resin, and 11.71 per cent. residue, hardly seems a fair sample. Authorities in this and other countries are fairly well agreed in putting the loss of Fine rubber on washing at from 18 to 20 per cent., the bulk of which is water, and 11.71 per cent. residue must surely be exceptional. The Pará rubber from the Gold Coast is given as being practically dry and having 2.31 per cent. resins and 3.30 residue, a very much superior article if one is to judge by the comparative figures alone. In looking at the table of resins it must be carefully borne in mind that the figures must not be compared with those published by Terry, Weber, Clouth, and others, because these latter all refer to washed and dried rubber. As a guide to the manufacturer the percentages of resins in the dried rubber are much better than any figures relating to products whose respective amounts of water and dirt must be allowed for before a comparison of the amounts of resin can be made. Of course the Liverpool figures may not be meant for the manufacturer's eye, but it is quite possible that they may come before his notice and at a time when pressure of business might interfere with their careful examination.

DITMAR has recently had an article in the *Gummi-Zeitung* on a laboratory method for estimating the durability of rubber goods. The subject is an interesting and important one, but it is clear that it is hedged in with many difficulties. Without going into the chemical details of Ditmar's process, it may be said that it consists in exposing the goods to oxygen gas at a high temperature for a greater or less length of time, the increase of weight being taken as the index of oxidation, it being assumed that the durability varies inversely as the degree of oxidation. Now no doubt laws of this sort may be laid down from a scientific point of view, but one has to be very cautious in accepting them as applying in practice. The use of the term durability is of doubtful value because it depends entirely under what conditions the goods are used or are intended to be used. Taking this into consideration, it does not seem possible to devise a test that shall be generally applicable to rubber goods, though I am quite of opinion that comparative tests of the probable durability of goods of a particular class in reference to an acknowledged standard can be made to give useful results.

This procedure has long been adopted by railway companies and other large buyers of rubber goods, more especially in the case of hose piping and buffers. Such mechanical tests are devised for each class of goods with special reference to the conditions under which they are to be used. No claim has been made, as far as I am aware, that any of them has a universal utility for testing rubber goods. And I think that in the chemical tests which have been proposed in the past and in those which will no doubt be devised in the future they will have to be specially arranged for each class of goods. With regard to the oxidation test proposed by Ditmar, in theory it is on the same lines as was proposed by Weber to estimate the liability of cycle tires to sun cracking, though the method of applying the oxygen is quite different. Weber used a cold solution of hydrogen peroxide in acetone and expressed himself as satisfied that the increase of weight in strips of rubber owing to oxygen absorbed gave a true index of the liability of the rubber to sun cracking. I have not any information as to whether the process has been generally adopted or found reliable by others. In saying what I have I don't wish in any way to discredit Ditmar's process; I merely wish to advocate caution in its general adoption because otherwise in inexperienced hands it might lead to the condemnation of goods perfectly suited to their purpose.

THE continued growth of the rubber heel industry forms I think a sufficient excuse for a further reference to it in these columns. The pioneers of the business were the Revolving Heel Co., whose head office and works are situated at Preston. The article was first put on the market in 1896, but for several years it proved very uphill work, and the business was carried on at a loss for some time. Eventually, however, the utility of the pad became recognized and about 1902 the business began to move with giant strides. The Revolving Heel Co. now make all sorts of rubber heels, revolving, stationary, and tips, and have the enormous turnover of about 20,000,000 heels per annum. The company have always made the quality of the rubber a strong point, so that now the name "Wood-Milne," which may be considered their trade mark, is recognized as the hall mark of quality wherever the goods are in demand. Though the business is British in its origin and development, the goods now seem to be in almost world wide demand, large orders coming from the various British colonies and from such out-of-the-way places as Khartoum and Omdurman. Of course, public opinion as to the advantages to be derived from wearing these adjuncts to a leather boot is not unanimous; such innovations are sure to meet with an opposing current of conservatism. The statement, however, which has often been made in my presence, to the effect that only low class people have adopted rubber heels, does not find confirmation among the shoe makers who only do business with the wealthy class. Without going too much into detail, it may be mentioned that the boot maker to the King is now regularly putting rubber heels on to his ordinary boots, which are supplied at 3 guineas a pair. In this case it is not a highly sulphured pad attached mechanically, but a block of black rubber cut

RESINS IN
RAW RUBBER.WOOD-MILNE
RUBBER HEELS.TESTING THE
DURABILITY OF
RUBBER GOODS.

to the shape of the leather heel and fitting so that it is impossible at sight to distinguish the rubber from the leather. It can hardly be contended that those who pay 3 guineas for a pair of boots are actuated mainly by motives of economy when they ask for rubber heels, so it must be concluded that considerations of comfort have acted largely in bringing the business to its present imposing dimensions.

My recent remarks on this topic have brought comment from the *India-Rubber Journal* and from Mr. Heyl-Dia. Except in one particular the former agrees with what I said, and indeed goes further in the way of criticism. May I, however, point out to the *Journal* that it is an exceedingly difficult thing to prove a universal negative in cases such as these, and that therefore it is quite possible that I found an interest evinced in one quarter while they found it absent in others. This of course is an academic matter of no importance; it is more to the point that Mr. Heyl-Dia, in his letter to this paper, defends the use of the term "synthetic" with respect to his rubber. Until I have some personal acquaintance with the rubber in question it would be out of place for me to say anything more with regard to it. Mr. Heyl-Dia says he is ready to buy untold tons of Pará rubber at 1 shilling per pound. But I never said anything about such rubber being sold at this price; I merely parsed on the statement made to me by a planter that the cost of production was or would shortly be a shilling. A good many bodies, diamonds for instance, are sold at a price showing far more than a 10 per cent. profit on their production costs. No doubt at the present selling price of Pará rubber a good quality substitute, or synthetic rubber, might be sold at a good profit. The point, however, which I wished to make was that such products might not prove profitable if the price of raw rubber fell 2s. 6d. per pound, at which figure the planters say they could still make a good profit.

FROM figures obtained from one of our largest manufacturers it would seem that there is no falling off in the demand for cycle tires. Although, of course, the motor tire business shows continued expansion, yet the purchasers belong for the most part to a different class from that with which the bulk of the cycle business is done. The main difference of to-day compared with what was formerly the case, is, it need hardly be mentioned, in the profit department. The reduction in price from £2 to 15 shillings per pair of tires complete reduces the profit earning capacity of the business to about the level of mechanical sheet and it is only in a large turnover that salvation lies.

I UNDERSTAND that Mr. Thomas Rowley has severed his connection with the Recovered Rubber Works, Limited, of Clayton, Manchester, with which he has been so long connected as managing director. His own firm, however, will continue to carry on business at their new works and offices, 13, Green lane, Brook street, Manchester, in the lines with which the name of Rowley has been so long associated in the rubber trade.

THE announcements referring to the sale of rubber machinery at the well known proofing works of Messrs. Abbott, Anderson & Abbott, Dod street, Limehouse, London, has led to somewhat erroneous conclusions in certain quarters as to the state of

the firm's business. The sale was by an order in Chancery arising entirely out of a private family matter connected with the will of the late Mr. Abbott, the senior partner. For some time past part of the manufacturing has been carried on at Harpenden, and the decision came to by the existing partners to conduct the bulk of the business there in future is only on the lines of what several other London firms have done of late in the way of removing their premises to more salubrious and less heavily rated localities. I don't profess any detailed knowledge of Messrs. Abbotts' business, but believe I am not far wrong in saying that the depression in the waterproofing trade of late years has not affected them to any great extent, because they have been associated more with the manufacture of high priced clothing for sportsmen and yachtsmen than with supplying the needs of the million, and the demand for the heavy expensive coats has not fallen off in anything like the proportion seen in cheaper goods.

I HAD an opportunity recently of accompanying an officer on barrack inspection and among the stores and equipment coming under my notice were a number of ground sheets. The rubber on these was in the last stage of decay and I was not at all surprised at the barrack warden's remark that though the waste rubber dealers were keen enough to get hold of other old rubber goods, they did not care for ground sheets. It was reassuring to be told that such sheets as these, in which most of the rubber had cracked off or was in the condition of putty, were only used for recruits to lie upon during firing practice. From data given me as to age and conditions of service, it was clear that the ground sheets had lasted quite as long as could have been expected. It was stated that sea air had a destructive effect upon them; I don't know how far this statement finds corroboration, but the seaside is generally associated with ozone, which is well known to have an oxidizing influence upon vulcanized rubber. A point which struck me in the course of my observations and enquiries was that very little appears to be known about the properties of rubber goods, either by those who use them or by those in higher positions who are responsible for their use. Official vigilance seems to be directed more keenly on such unimportant points as a uniform distance between the eyelet holes in a sheet than upon such matters as conditions of storage.

NEWFOUNDLAND TARIFF ON RUBBER.

UNDER the new tariff schedule of Newfoundland an import duty of 40 per cent. *ad valorem* is levied upon the items described in the following paragraph:

Indian-rubber boots and shoes, and all manufactures in part or in whole of Indian-rubber or guttapercha; Indian-rubber clothing and clothing made water proof with Indian-rubber or like substances; rubber or guttapercha hose, and cotton or linen hose, lined with guttapercha or Indian rubber.

Rubber tires for carriages are dutiable at 20 per cent., and machinery belting of whatever material at 10 per cent.

A WRITER in our London contemporary strongly urges the British rubber trade to go in more for the golf ball manufacture. He figures out a yearly demand for 6,000,000 balls from British golfers, and he mentions several manufacturers who have made handsome profits from this trade—one of over £25,000 [=about \$125,000] last year.

MR. HEYL DIA'S
SYNTHETIC RUBBER

THE CYCLE
TIRE TRADE.

THOMAS ROWLEY
& CO., LIMITED

MESSRS. ABBOTTS.

HAWAII AND RUBBER CULTURE.

By the Editor of "The India Rubber World."

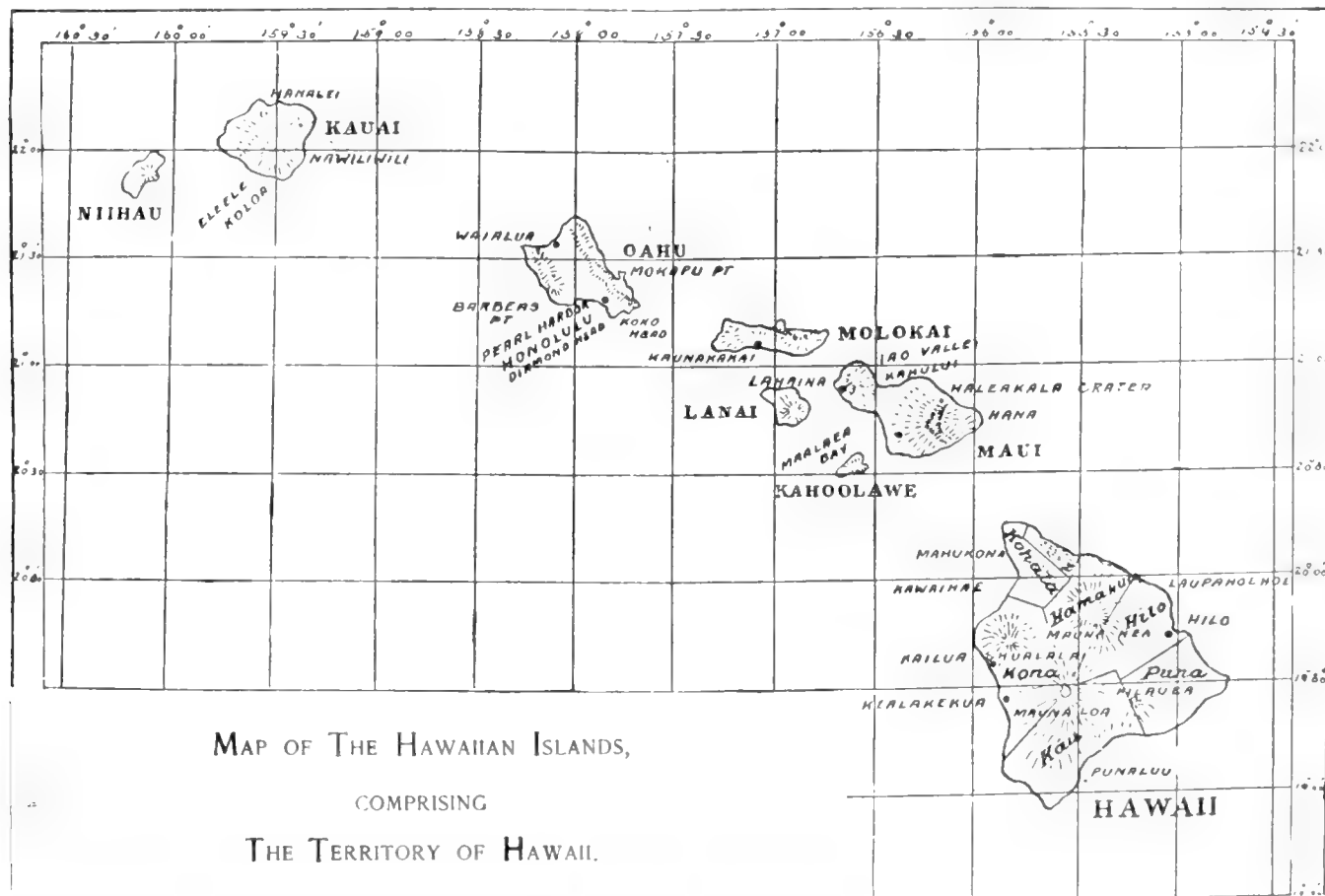
WE crossed the Pacific from Yokohama to Honolulu in the *China*, and as passengers were few I had a roomy, high-studded cabin to myself. Against the advice of the steward I kept the port open, preferring to take a chance on drowning to one on asphyxiation. Much water came in, but it didn't touch me as I slept in the upper bunk, reached by a ladder, and my chance proved well taken. When we crossed meridian 180 we had the somewhat unusual experience of having a day 48 hours long. We were given two sunrises, two sunsets, and six square meals, all on Friday, and all on the fifth of the month. Had it been Thursday or Saturday I should not have cared, but I hate fish, and that was certainly a long day.

Our first sight of the Hawaiian group came at evening from the "heat lightning" playing over one of the outlying islands, and at daybreak the next morning we were at Honolulu (pronounced Honolulu by the inhabitants). I say at the place, but not in it, for one of our steerage crowd of Koreans, after troubling the ship's doctor by developing granulated eyelids, and threatening smallpox, came down with a huge abscess in the arm pit that the quarantine officials diagnosed as bubonic. So we waited while they took a section of him ashore, only to return after hours with the glad news that it was simply a respectable but angry boil.

After this comforting assurance we went ashore and had tiffin at the elegant Alexander Young Hotel, went out to Wakaki Beach for surf riding, bought curios, took trolley and carriage rides, and in fact settled down to real hard work as sightseers. I am, however, going to put off the story of my own adventures and get right down to the story of Hawaii as it is and as it will be when it gets to be a rubber producer.

To go back a little, the Sandwich islands were discovered in 1778 by Captain Cook, whom the natives believed to be edible, and whom they at one proceeded to get away with. Some time in the present century they were re-discovered by William J. Gorham of the Gorham Rubber Co., of San Francisco. The natives did not cherish the illusions regarding him that they did toward the former discoverer and he got away with *them*. When I met him in Honolulu he had just subjugated every trader in the group, and was planning to sell to a syndicate, enough of his wonderful steam hose to run a pipe line from the volcano of Kilauea to Honolulu, to furnish steam for industrial purposes.

The islands comprising the territory of Hawaii are seven large ones and quite a number of little ones. They are Hawaii, Maui, Oahu, Kauai, Molokai, Lanai, and Niihau. According to the census of 1900 they had 154,001 inhabitants. Of these islands, the most densely populated is that

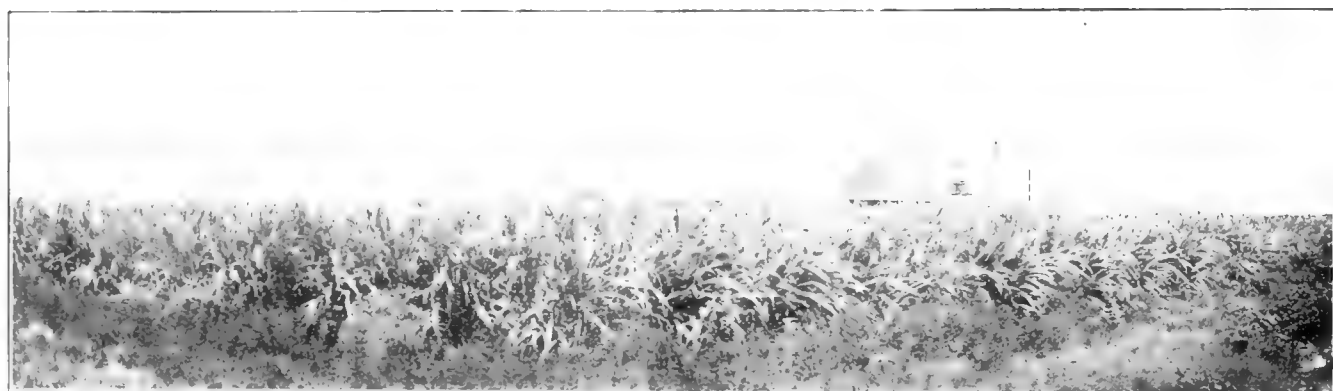




PALMS AND RICE FIELD



TYPICAL HAWAIIAN VIEWS.
Davey Photographic Co., Limited, Honolulu, H. I.



THE WAIKOLE AND CANE FIELD

of Oahu, which has nearly 60,000, and it is on this island that the city of Honolulu is situated. The native population to-day is small, being less than one third of the total, the predominant races being the Chinese and the Japanese. Probably no country in the world offers a greater variety of beautiful scenery than does this midocean territory of ours, and not only is the scenery marvelous and the arable land rich and productive, but the climate is uniformly the finest on earth. The very hottest day that the islands can furnish will not show a temperature of over 90° F. and it never gets colder than 55°. On the mountain tops they have cool nights, occasional frosts, and sometimes a little snow, but anywhere near the sea level there is beautiful May weather the year round. It is certainly a fisherman's, huntsman's, bicyclist's, automobilist's, or general tourist's paradise, and the American people are rapidly waking up to the fact.

Sugar cane, of course, is the main crop in the Hawaiian islands. I have forgotten exactly the number of acres but think it is about 200,000, most of which are tilled by great corporations under their own plantation systems. There are, however, many small planters whose cane finds a ready market at the sugar mills. A great variety of tropical fruits such as pineapples, bananas, alligator pears, oranges, etc., are also grown and a good deal of coffee is raised while the Chinese planter is quite a feature as a rice producer.

It is claimed that there are at the present time something like 400,000 acres of arable land on the islands, most of it belonging to the government. This may be easily acquired by those who contemplate any sort of planting proposition. Much of this land lies in sheltered valleys, and at the present time it is heavily wooded. The soil being volcanic, except on the coast plains which are of coral origin, the drainage is good and the land fertile. For certain growths, however, fertilizers are needed, and to those who contemplate taking up land in the territory of Hawaii it is strongly urged that they communicate with the special agent in charge of the Hawaiian Experiment Station at Honolulu, who is a gentleman of much experience and who is in a position to be very helpful. Exactly what it would cost one to purchase land it is difficult to state. Good sugar land brings from \$25 to \$60 an acre, that is, when purchased from private individuals, but bought from the government it would cost from \$10 to \$15. These holdings are all classified, and the commissioner at Honolulu can give any inquirer full information regarding what is open, conditions for the homestead lease system, right of purchase, leases, cash freeholds, and so on.

I have dwelt at some length upon this for the reason that now that rubber culture has made a beginning in the Sandwich islands, and particularly as these islands are now making real progress, many faces

will turn towards this Pacific possession of ours, and much agricultural development will result. It is to be hoped that a large part of this, or at least a fair proportion of it, will be along the line of rubber cultivation. Indeed, it wouldn't hurt the writer's feelings a bit if the thousands of acres devoted to the luxury, sugar, were turned within the next five years into the production of the necessity—rubber.

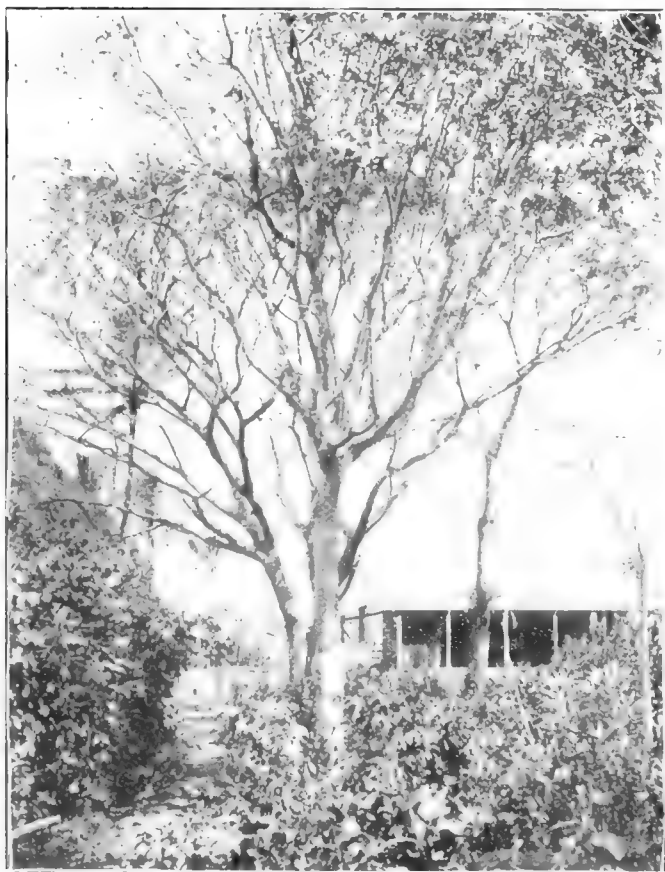
To speak a little further about conditions for the man who wishes to plant rubber or anything else: It will be a satisfaction to many to know that there are no snakes or poisonous reptiles of any kind in all the islands. There are no such pestilences as are to be found in other tropical countries, and there isn't a wild beast anywhere there; nor have they yet discovered malaria. Of course there are certain drawbacks. While there are apparently no insects poisonous to man, there are many agricultural pests. For example, the fruit industry suffers from scale and mealy bugs and sugar planters are obliged to fight the borer and all his kin. Then, too, there are cut worms, plant lice, Japanese rose beetles, and lots of others of the same sort. Whether there is anything that will be injurious to rubber no one knows yet,



"MANIHOT GLAZIOVII," NAI-KU PLANTATION. 22 INCH DIAM.



MAN HOT GLAZ "VII" TREES 7 TO 10 MONTHS.



ST. N. Y. A. MANH. 1.1. NEAR (NAH. J. LAND.)



VIEWING YOUNG RUBBER.

but it is quite likely that some of the existing insects will adapt themselves to the rubber situation as it develops.

My interest in rubber in Hawaii dates back to 1890, during the reign of King Kalakua, with whom I had a most interesting correspondence. That is, I wrote him some very interesting letters and got no replies. I don't say specifically that that is why he lost his throne, but any student of history knows what has happened to the islands since I received the royal snub.

The defunct ruler, however, went on record as believing that something might be done with the *Ficus religiosa* and the *Ficus Indica* which grow there in "prolific profusion." He also noted that the bread fruit tree (*Artocarpus incisa*) produced a gum that for centuries had been used by his subjects for waterproofing purposes, and which he believed might contain a percentage of rubber. With regard to the cultivation of rubber, he promised his royal sanction to anybody with money to spend to come there and spend it for rubber or anything else.

Somewhere in 1900 the papers in the Far East claimed that the United States government was going at once to save \$30,000,000 that it was then paying for imported rubber, by booming cultivation in Hawaii. The story was, that the nucleus was to be 100,000 rubber trees transplanted from Brazil to the newly acquired territory. Nothing, however, came of this.

It was on the island of Maui that the first real start at rubber planting was made. Seven hundred and sixty square miles has Maui, and a most romantic island it is. It is really two mountains connected by a sandy isthmus, and is wonderfully varied both in climate and scenery. For example, speaking of climate, one side of the island is dry and barren, but the other, the windward, is exceedingly fertile. This portion, which consists on the lower levels of picturesque valleys, has plenty of rain and rich soil, and it is here that the rubber is being planted, and Ceará (*Manihot*) was the first tree selected. Rumor has it also that there was something like 200 acres, part *Hevea* and part *Ficus*, planted about the same time, but no record of this planting is at present available. In 1905, however, there was formed the Nahiku Rubber Co., Limited, which took over the plantation containing the Ceará trees planted some years before, which although few in number, had not only matured remarkably, but had become excellent rubber producers. This was rather remarkable, that is, the fact that the trees produced latex, as the rainfall was nearly 250 inches, and with the experience of the Ceylon planters before them many thought that the trees would be barren. The reason for this difference perhaps lies in the fact that although the rainfall is great the evaporation is very sudden so that the trees are led to expect a drouth, which never comes. The same company are also importing seed of the *Hevea* from Ceylon and expect to plant that

on a large scale.

With regard to the yield of the Ceará trees in the Nahiku plantation, six small incisions produced an ounce of dry rubber, and this tapping may be repeated once a week through the year.

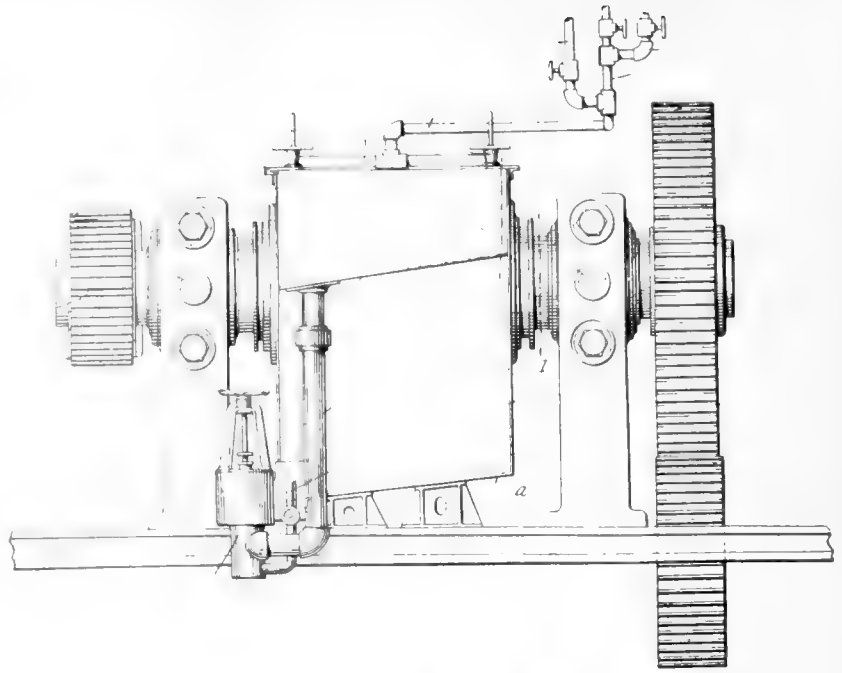
Mr. Jared G. Smith, who is in charge of the Hawaiian Experiment Station, is authority for the statement that the *Manihot* trees at Nahiku landing have already produced a pound and a half of dry rubber a year. This assures a good profit. He also mentions the recent incorporation of two more planting companies but gives no particulars further than that they are already planting and the young trees showing marvelous growth. As several leading business men from Hawaii have recently been in Ceylon and the Straits studying rubber culture it is quite likely that future planting will be in part, at least, of the *Hevea*. It is worthy of note, that the principal rubber planting in Hawaii has been done by settlers from the United States. These are small beginnings, but beginnings all the same. Just keep an eye on T. H. and see if in another decade she is not producing good rubber as well as furnishing seed for Formosa, the Philippines, Samoa, and other tropical countries.



PLANTING ON NEWLY CLEARED LAND, NAHIKU PLANTATION.

RUBBER WASHING MACHINE.

THE simplest things mechanically are oftentimes most difficult to describe, which doesn't mean that simple things are not good, but on the contrary they are very near perfection. Mr. F. C. Hood's machine for washing rubber recently patented and his process for purifying rubber appears to the writer to be both practical and valuable. The machine itself is a washer enclosed in a water-tight box where the rubber running through the corrugated rolls is not only constantly plunged into water, but is submerged throughout the whole purifying process. There is the attendant advantage also that neither rubber nor rolls can get heated during the process of washing. Further than this, the water may be drawn off at any time and fresh water substituted, or liquid solutions may be introduced, for neutralizing vegetable acids and bringing poorer grades of rubber up to a higher standard of excellence. The patent specifications take many pages to describe this, but the above is the gist of the matter. The illustration shows the exterior of the washing machine. United States patents Nos. 821,716 and 821,717, issued May 29, 1906.



A NEW MACHINE FOR WASHING RUBBER.

RUBBER HEELS ON FLAT DWELLERS

IT may be true and it may not; at any rate, the New York *Sun* prints a story that will be passed along gleefully among the makers of rubber heels. A landlord in Harlem, says this chronicler, has inserted in his leases a clause making it obligatory on the tenant and each member of his family to wear rubber heels. The redeeming feature of the thing is that the landlord agrees to bear all expense of fitting the shoes of the tenants with rubber heels. One prospective tenant had the temerity to ask what would happen if he should refuse to wear rubber heels. "We would find some one who would wear them," was the reply. "We're going to stop the 'noise overhead' nuisance."

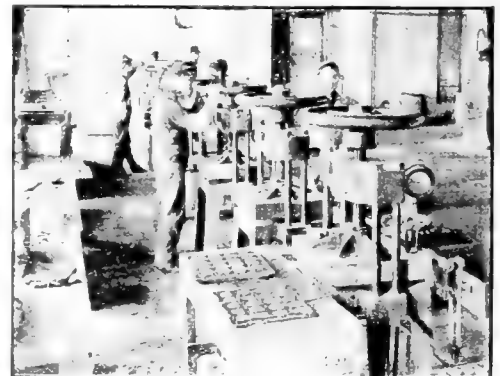
THE program of the French colonial congress to be held at Marseilles on September 5-9 provides for a full consideration of topics connected with the production of rubber, particularly in the French colonies. One topic planned is: "The falling off of the rubber production in certain places and rubber adulteration, and their causes and remedies."

WHERE RUBBER HEELS ARE MADE.

WHEN any commodity so generally known as rubber heels is spoken of, there must be many people who would feel interested in knowing something of how they are made. A single rubber heel is a small thing, but in the aggregate the business of making them is very large, and there enters into the manufacture of each one a number of processes, calling for a varied equipment of machinery. An important producer of these goods is The Springfield Elastic Tread Co. (Springfield, Ohio), whose output is known as the "Easy Walker" heel. Among the features that particularize these heels is a patent spring heel holding plate, instead of the ordinary washers often used; they are attached without gum or cement, the joints are water tight, the best rubber is used, and they are made by skilled mechanics. The accompanying illustrations show one end of the vulcanizing department and part of the trimming department, only a small proportion of each appearing in the picture. Other departments of the factory are the rubber mixing room, the department where the rubber heels are molded, and the packing and shipping department. A single pair of rubber heels seems so small a matter that the average reader may not appreciate that large factories are needed to supply the millions of pairs sold.



Trimming Department.



Vulcanizing Room.

WHERE RUBBER HEELS ARE MADE.

PNEUMATIC PLAYING BALLS.

A SILK thread pneumatic golf ball is the latest thing out in golfdom, and its origin and manufacture both belong to Akron, Ohio—that great center of golf ball production. When the pneumatic golf ball was put out, a year or so ago, it marked a great departure and attracted wide attention, and it succeeded at once in gaining a stronghold in the favor of players. This was a hollow sphere carrying compressed air to furnish the resilient quality, being wound with cotton thread to give the requisite strength, and then provided with a shell of Gutta-percha to give it toughness to resist the wear of the club in playing.

In the opinion of many players no other golf ball is so lively or resilient as the pneumatic. The heavy blow of the drive depresses the flexible wall of the ball and "touches up" the air already compressed to a resiliency far greater than pure new rubber. The pressure of the compressed air in the heart of the pneumatic ball is exactly the same in every direction, and thus keeps the ball a perfect sphere. But the instant of depression from a heavy blow is sufficient to seat the ball firmly on the face of the club and maintain the contact during more of the follow through. This is a further aid to distance and the best help in controlling direction. In the latest balls of this type improvements have been made in marking and otherwise, but a very distinct improvement remains to be mentioned.

This is the wrapping of the inner sphere with silk, instead of cotton. It was felt that the only radical improvement possible in the regular pneumatic ball was in the greater compression of the air core. In the new type, the pressure has been brought up from 800 to 1200 pounds per square inch. To withstand this greater pressure, use has been made of the most expensive fine spun silk thread, wound round and round the airtight composition which forms the inner wall of the pneumatic ball. The result is a ball particularly responsive to the driving stroke.

The resiliency of the silk pneumatic decreases consistently as the force of the stroke lessens, and in "putting" it can be given sufficient speed to maintain direction and surely reach the hole, with the confidence that it will go down and stay down. The silk wound ball is, of course, more expensive

than the cotton wound, but even at its higher price it is offered as the economical golf ball.

Another product of the same firm is the pneumatic baseball, which has been used by a number of clubs in Akron and its vicinity, while the manufacturers have been getting ready the machinery necessary for making it in quantities. Many tests have indicated that the use of this ball improves the game, besides which it possesses greater durability than any balls hitherto in use. The pneumatic baseball has a compressed air center and cannot be batted soft or punky because of the strong pressure outward of the compressed air at the center of the ball. The pneumatic ball is as hard and as playable at the end of the game as at the start. The pneumatic baseball will be made in two styles—one a "flyer," in which every advantage is taken of the resiliency of compressed air, described as a great ball for town lots and for players who enjoy a batting game, and a regular league

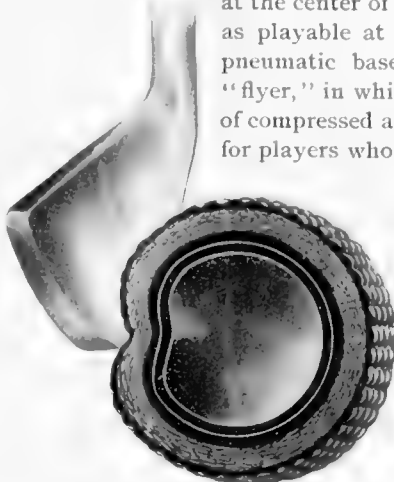
ball which is of standard size and weight. By their method of winding, the league ball is so deadened or controlled that in play it is no more lively than the standard league balls used heretofore. The pneumatic baseball will be sold at about the same retail price as other standard balls.

There remains to be mentioned a pneumatic cricket ball also made by the same firm, with which very satisfactory tests have been had in England. This, with their pneumatic polo ball, completes a line

of pneumatics covering the most active sports at present popular throughout America and the English speaking countries. As has already been mentioned in THE INDIA RUBBER WORLD, the inventor of the pneumatic principle as applied to balls is Mr. A. T. Saunders. The manufacturers of all the balls here mentioned are the Goodyear Tire and Rubber Co., Akron, Ohio.

The Goodyear company are mentioned as having received lately a cabled order from Siam for 5 dozen pneumatic golf balls, and they are shipping balls to every country where golf is played. Peter Robinson, a professional near Pittsburgh, writes: "The pneumatic is the best putting ball I ever used. I never saw any ball run so true as it does."

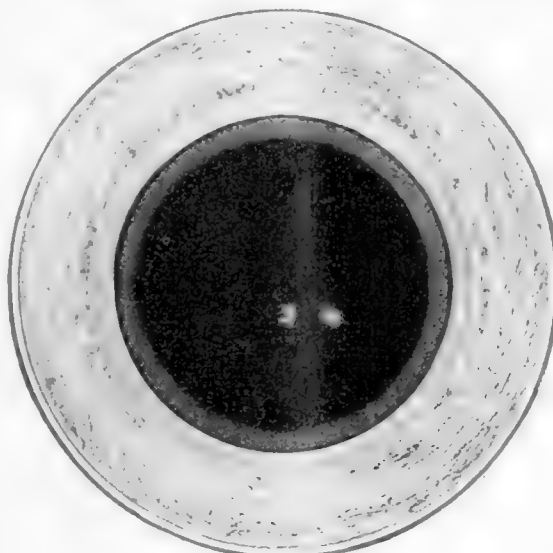
The pneumatic polo ball above mentioned was first tried at Newport last September, and was pronounced excellent in certain features by some players who urged the makers to complete the ball in all its details, and this they have since been engaged in doing, with excellent results.



REACHING THE COMPRESSED AIR.



SILK WOUND PNEUMATIC GOLF BALL.



PNEUMATIC BASEBALL.

SCRAP RUBBER IN A GRAVEYARD.

RUDOLPH LOEWENTHAL, whom the whole trade knows as a pioneer in rubber reclaiming, tells the following story upon himself. It seems that back in 1885 it occurred to him that Europe must contain vast quantities of old shoes and that they could be bought at a comparatively low price, because the European manufacturers were not then interested in reclaimed rubber. He therefore started promptly across the water and was successful in securing quantities in England, Germany, and Russia. Austria was the last country visited and there he called upon Francis Reithoff, a well known rubber manufacturer, and made known his errand. Almost immediately Mr. Reithoff was interested and said:

"I know where there is a very large quantity of old shoes which a man of perseverance can undoubtedly secure at a very low price. The shoes were shipped here by the Liverpool Rubber Co., before we Austrians were willing to wear rubber footwear at all. There was no market for them. The Liverpool company, with true British persistence, absolutely refused to allow their agents to ship them back, and said they must find a sale for them, and that finally came about in a very curious way. Our people here, as you know, are buried in full dress, one important part of which is the patent leather shoe. The man who had the rubber shoes on hand, appreciating this, approached the great burial associations and sold these shoes to clothe the feet of the defunct. If you will, therefore, go to our beautiful graveyard, you will find there probably the largest collection of old rubber shoes that are anywhere in Austria."

RAIN AND THE AMAZON RUBBER CROP.

THE opinion is expressed by the United States consul general at Rio de Janeiro, in a recent official report, that the Amazon rubber production of next season will indirectly be influenced through the copious rains in a very peculiar way. The production, he says, is limited not so much by the demand or by the crop—those two factors have recently been steadily favorable to the producers—but by the facility with which labor can be procured for this unhealthy industry. By far the largest contingent of the rubber cutters in the Amazon regions is furnished by the state of Ceará, where there prevails in about seven years out of ten a famine caused by the excessive droughts. Through this famine the native labor is forced to accept the offers of the rubber estates on the upper Amazon and its affluents. The conditions on which those poor people have to accept labor are such that only the direct necessity induces them to avail themselves of the offers. This year, however, the state of Ceará, on account of the abundant rains that prevail there, will furnish a good living for all of its citizens, and probably very few will be forced to risk their lives in the rubber plantations.

The consul might have added, however, that the upper rubber fields have gradually attracted an increasing number of permanent residents, including Cearenses. Hence the failure of as many workers to go upstream as in some former years may not have the same effect on rubber production.

ELECTRIC HOT WATER BOTTLE HEATER.

ALL the annoying features of varying temperature for hot water bags has been done away with by the recent invention of an electric heater which can be applied to any bag. This little attachment placed in the stopper of the bottle is connected to the electric light socket in the same manner as a bulb, by the ordinary lamp cord. It can readily be transferred from one room to another; it is simple; it is durable;



there is no danger in its use; it is inexpensive and it maintains an even temperature, thereby increasing the value of the hot water bag in cases of illness where such temperature is desirable. Another very practical argument in its favor is that with its use there will be no boiling water necessary, hence no more burned hands: for despite the blessings that the bag has brought, it has been responsible for many ugly burns. [Standard Electric Heater Co., St. Louis.]

HOT WATER BOTTLES FOR SEA SICKNESS.

AN old traveler, who has made no less than 30 voyages across the Atlantic, is authority for the statement that the nearest approach to an absolute preventive of seasickness is a hot water bottle. He asserts that *mal-de-mer* is caused primarily by the motion of the ship, but secondarily by the body having become chilled. Where the body is kept warm at all times, he says, seasickness is very rare, and even those stricken have only slight attacks. The ocean traveler is advised to keep a hot water bottle under his feet when on deck, then, when he retires, he should keep a steaming hot water bottle in his bunk for 15 or 20 minutes before he turns in. The sea air is moist and the bedding is certain to become damp during the day, thus imparting a chill to the sleeper at night. This is overcome by the use of a water bottle filled with the hottest water obtainable.

MR. J. JACKSON TODD, formerly president of the Chicago-Bolivian Rubber Co., has just returned from a visit to rubber plantations throughout Mexico and Guatemala.

NEW GOODS AND SPECIALTIES IN RUBBER.

FLEXIBLE BUTT PAD.

EACH season the methods of those preceding give way to the progress of the times, which manifests itself alike in the utilitarian world and the world of sports. Especially in the summer when the minds of so many dwell upon the pleasures to be derived from relaxation and rest, are the recent inventions conducive to the increased ease or pleasure, or both, most sought. Fishermen everywhere are striving to find new and improved devices whereby they may lure the unwary little or big fish to more certain death. Frazer's Flexible Butt Pad is said, really to put the finishing touch to the first class casting rod. Anglers hold that there is no possibility of having the rod slip under any circumstances. It fits the contour of the body at any angle at which the rod may be held. When the rod is laid down in the boat if the butt pad is rested on one of the longitudinal ribs, the flexible flange drops back of the rib and secures the rod from rolling out of place. It is advertised to save "the big ones," the rod, and the temper. [Sportsman's Specialty Co., Milwaukee, Wisconsin.]



RUBBER SUCTION GRIPS.

SOMETHING that is attracting widespread attention among golfers are the Rubber Suction Grips, which are said to have been the means of raising the standard of the popular game, inasmuch as it insures a much firmer footing, and this, in turn, meaning a better play. No objectionable features seem to arise for criticism as these grips can be easily attached to the shoes, are equally as effectual for actual service on baked, frozen or wet ground, there is no metal surface exposed to mar the floors of the club houses, and it is exceedingly comfortable. The golfers who have experienced the difficulty of securing a firm footing on the links, and have not yet seen these grips, have something in prospect to enhance the pleasures of the games of the coming summer. The editorials of the various golfing journals have been unqualified in their endorsement. [The Suction Grip Co., No. 242 Market street, Philadelphia.]



NEW RUBBER ERASERS AND STENCIL.

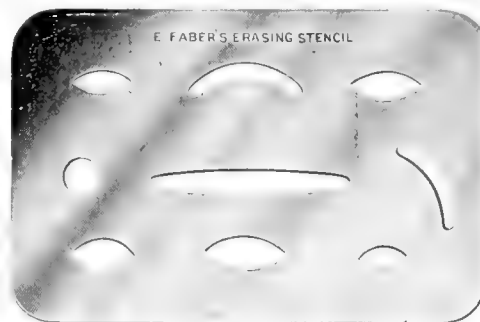
WHEN work of a particularly neat order finds its way from certain desks, it is a reasonably certain indication that quite as much attention has been paid to the choice of an eraser as to any of the other desk appointments. This would seem one of the non-essentials, but upon second



thought it will readily be seen that upon this much depends. One that is being looked upon with favor at the present time is the new combination ink and pencil eraser, cone shape, held in clamps and inserted in each end of a metal case of gun metal finish. In this combination case the



eraser that is slightly tinged with red is for the pencil. Another of somewhat different shape is the Elite, the erasers being held by metal oxidized band. The stencil eraser which is of nickel plate, perfectly flat, is a great promoter of neatness as it covers the writing that otherwise might be



inadvertently rubbed, while the letter or word for erasure alone is left visible through one of the various apertures over which the stencil is placed. These erasers and the stencil are manufactured by Eberhard Faber, New York.

THE OMO DRESS SHIELD.

To the majority of women the dress shield is a very important toilet adjunct. There are great difficulties that present themselves in the matter of selection, however, as so many requisites are really necessary in that this innocent looking little bit of rubber may do its perfect work. Oftentimes one feature is sacrificed to another in order to specialize and the fairer wearer wonders if an ideal combination really exists. The Omo claims for its product this distinction. The curvette, zouave, out-of-sight, detachable, linen mesh and short flap are some of the varieties, all of which they claim as odorless, impervious and hygienic. The journals of health and the medical profession have united in their tributes, thus extending its popularity. [The Omo Manufacturing Co., Middletown, Connecticut.]

INDESTRUCTIBLE WHITE SHEET PACKING.

A SHEET packing that will stand the highest pressure is one that is in the greatest possible demand. Extreme heat,



too, is one of the severe tests to which packing is also necessarily subjected. The packing shown in the accompanying illustration has many qualities that recommend it to the consumer. It does not become affected by ammonia, liquor, or alkali, making a tight joint when used for steam,

air, hot or cold water. It does not dry out or become hard and brittle, but retains its tough elastic qualities either in or out of service. It will not blow out under any pressure, and the joint can be broken numerous times without renewing the packing. [New York Belting and Packing Co., Ltd.]

FLUFF BAND SNOW EXCLUDER.

THESE bands are designed to keep the feet warm and dry and are admirably suited to the purpose. They are attached



to leather leggings, and are usually worn over a leather slipper sock, and these leggings are put on before the overshoe. The fluff band falls below the ankle, and when the overshoes are put on the top of the fluff is a good bit over the top of those, thus making it practically impossible for any snow to find its way inside of the over-

shoe, and the band or necessity keeps out cold as well. The leggings are easily removed, which is a feature that also makes them desirable. Both for wear in snow and cold they seem to offer splendid possibilities of comfort. [The Merchants' Rubber Co., Limited, Berlin.]

A RECEPTACLE FOR ASHES.

THAT woman's extremity is woman's opportunity is a paraphrase of an old adage, that might well be applied to the recent invention of a woman. However, even if she is the chief beneficiary, man also is directly benefited, for by its use he can enjoy the luxury of his cigar in any place without a thought of what will become of the ashes. This convenient little device is a rubber ash receptacle which takes up but a little space in the pocket, and when it is to be used a slight pressure opens the mouth of the fish (for the little invention has assumed this form) and the ashes are deposited and give no further trouble. When the pressure is removed the mouth closes tightly, retaining the contents until such time as the smoker shall see fit to empty the fish in order to recapacitate him. The pocket of every smoking jacket should be provided with a rubber fish.

ICE CREEPER.

THOUGH ice creepers are not used to any extent in the United States, yet our Canadian friends just to the north of



us find them almost indispensable. These creepers are made in many styles, but those of rubber with the metal spikes, supplied by the Canadian Rubber Co. of Montreal, Limited, are proving most satisfactory. They are modeled somewhat after the plan of the foot-holds, the rubber strap

fitting over the instep, while the spikes project from a substantial rubber heel covering, which is held in place by the strap. These come for both men and women. If their use were more universal the injuries arising from falls on the ice might be lessened, and while their actual necessity does not often occur in this climate, the innovation of an occasional wearing might prove the ounce of prevention that is better than a pound of cure. They are not cumbersome in the form here described and would not be awkward to wear.

DETACHABLE RUBBER HEEL.

A RUBBER heel that can be used on different shoes is one of the conveniences recently launched on a willing purchasing public. By means of a pronged metal plate, and curved ribs, the heels are attached, and the process of detaching, when the heels are wished for another shoe, is most simple, the insertion of a thin metal bar, or small screw driver, is sufficient to disengage the plate so that the rubber heel may be removed. The adjustment is simple and the many advantages to be derived from the use of this comparatively new invention outweigh all the inconveniences of being one's own shoemaker. Rubber heels are used so extensively that this device will be greeted with very general favor. The inventor is Nils P. Bolin, Brockton, Massachusetts.

A NEW RUBBER REDUCING SUIT.

WITH the approach of the torrid months, when everybody is sweltering or preparing to, it would seem that nature's methods of inducing perspiration were all-sufficient. But such is not the case with everybody. Shakespeare, or somebody once expressed a wish that "this too, too solid flesh would melt," but the desire was unfulfilled because in those days rubber flesh melters were not known. Nowadays the corpulent one would only need to don one of Riker's Reducing Suits, go about his work, or play, and think no more about it. In due time, when his flesh had been reduced to the desired point, the suit could be discarded until it should be needed again. This reducing suit differs in many respects from others on the market intended for similar uses. It is made in two pieces, almost exactly like ordinary underwear, and is adjusted the same way. It is made of pure gum of high grade and is said to be most efficacious as a superfluous flesh dissolver. [William B. Riker & Son Co., New York.]

THE government of Southern Nigeria, in West Africa, has advertised at Singapore for 20,000 seeds of *Hevea Brasiliensis*.

RECENT RUBBER PATENTS.

UNITED STATES OF AMERICA.

ISSUED MAY 29 1906.

- N**O. 821,679. Tire for vehicle wheel. [Pneumatic.] J. Thomson, Invercargill, New Zealand.
- 821,692. Hose clamp. J. W. Adams, Pasadena, Cal.
- 821,722. Striking bag or other fluid receptacle. C. A. Lindsay, New York city.
- 821,817. Soft tread horseshoe. J. McDermott and J. C. McBean, Chicago.
- 821,858. Pneumatic tire. H. L. Christiansen, assignor of one-third each to H. Tidemand and Ole Worm Dahl, both of Boston.
- 821,859. Automatic air brake controller. T. Clegg, assignor of one third each to A. McKinny and R. A. Bonnar, all of Winnipeg, Canada.
- 821,868. Armor for cycle tires. E. Grimme, Dittersbach, Germany.
- 821,871. Cushioned pneumatic tire. D. B. Hislop, Aberdeen, Scotland.
- 821,879. Fountain paint brush. G. Meyer and C. G. Braun, Philadelphia.
- 821,940. Fountain pen. J. Holland, Cincinnati.
- 822,021. Tire for vehicles and the process of making the same. T. C. Sanderson, West New Brighton, N. Y.
- 822,110. Syringe for subcutaneous or other injections. A. A. Gailliot, Paris, France.
- 822,173. Storm front for buggies. J. A. Wilson, assignor, by mesne assignments, of one-half to L. D. Wilson, both of Georgetown, Ohio.
- 822,177. Protecting cover for pneumatic tires. E. Bardou, L. Clerc, and B. Desouches, Paris, France.

Design.

- 38,038. Eraser tip. F. McIntyre, assignor to Eagle Pencil Co., both of New York city. *Claim.*—The ornamental design for an eraser-tip.

Trade Marks.

- 12,434. Nursing bottle nipples. Davidson Rubber Co., Boston. *Essential feature.*—The words NO COLIC NIPPLE, the letters N and C and the representation of a nipple, being in the form of a monogram.
- 17,352. India-rubber binding. Knapp Rubber Binding Co., New York city. *Essential feature.*—The words BIND THE RAGGED EDGE.
- 17,739. Rubber and hemp packing. Hibbard, Spencer, Bartlett & Co., Chicago. *Essential feature.*—The letters O V B with a panel extending across the same upon which appear the words OUR VERY BEST.

ISSUED JUNE 5, 1906.

- 822,307. Pneumatic tire protector. W. W. Scarborough and C. E. Schultz, Knoxville, Tenn.
- 822,366. Rubber boot. C. M. Hannis, Hudson, Mass.
- 822,423. Hose coupling. R. Bates, Tamaqua, Pa.
- 822,439. Tire construction. W. F. Ellis, Stamford, Conn., and E. C. Davis, New Brunswick, N. J., assignors to The Universal Tire Co., New York city.
- 822,518. Wheel [With elastic tire.] A. Freschl, Chicago.
- 822,561. Apparatus for manufacturing wheel tires. P. D. Thropp, Trenton, N. J.
- 822,583. Vehicle tire. J. Christy, Akron, Ohio.
- 822,640. Milking machine. T. M. Wade, Lithopolis, Ohio.
- 822,651. Tire armor. J. Coan, Kansas City, Mo., assignor of one-fifth to R. W. Coan, Gravity, Iowa.
- 822,692. Rubber boot. F. F. Schaffer, Naugatuck, Conn., assignor to Rubberhide Co.
- 822,711. Rim and tire fastening for wheels. R. H. Atcheson and J. H. Walsh, Chicopee, Mass.
- 822,786. Elastic wheel tire. W. Struck, Berlin, Germany.
- 822,839. Process for facilitating the removal of roots of stumps. M. A. Fry, Seattle, Wash.
- 822,882. Life preserver. S. Citron, assignor of one-third to S. B. Baumsee, both of New York city.

Trade Mark.

- 9,551. Waterproof collars and cuffs. The Celluloid Co., New York city. *Essential feature.*—The words SOLID FIBRE.

ISSUED JUNE 12, 1906.

- 822,949. Horseshoe. H. W. Hibbard, Milwaukee, Wis., assignor to Ogden Cushion Horse Shoe Co.
- 823,014. Protector for cigars [made of a thin elastic material]. F. H. Whomes, Los Angeles, Cal.
- 823,054. Process of treating vulcanized rubber waste. W. A. Koneman, Chicago.
- 823,069. Vaginal syringe. J. T. McCarthy, assignor of one-half to J. J. Riordon, Jr., both of Baltimore, Md.
- 823,093. Wheel rim. H. B. Williams, New York city.
- 823,246. Waterproofing composition. J. Wessel, New York city.
- 823,328. Fountain pen. A. Hall, Chicago.
- 823,331. Overshoe. C. L. Higgins, Montreal, Canada.
- 823,344. Pump piston and packing therefor. W. M. Maloney, Chipmonk, N. Y.
- 823,409. Vaginal irrigator. T. W. Heuston, assignor of one-half to L. D. Winfers, both of Coffeyville, Kansas.
- 823,454. Vehicle wheel. W. S. White, Chattanooga, Tenn.

Trade Marks.

- 9,554. Waterproof shirt fronts, collars and cuffs. The Celluloid Co., New York city and Newark, N. J. *Essential feature.*—The word VICTOR.
- 9,556. *Same.* *Essential feature.*—The word symbol ULTIMA.
- 12,058. Electrical insulating and protective devices. The Johns-Pratt Co., Hartford, Conn. *Essential feature.*—The hyphenated word JOHN-PRATT
- 12,800. Rubber tires for vehicle wheels. The Electric Rubber Mfg. Co., Rutherford, N. J. *Essential feature.*—The word PANTHER.
- 14,001. Syringes. Johnson & Johnson, New Brunswick, N. J. *Essential feature.*—The word BELLEVIEW.
- 17,734. Golf balls. The Kempshall Mfg. Co., New York city. *Essential feature.*—The word CLICK.

ISSUED JUNE 19, 1906.

- 823,500. Truss. A. P. Barlow, St. Joseph, Mich., assignor to P. G. Kniebes, Benton Harbor, Mich.
- 823,510. Hose coupling. N. A. Christensen, Milwaukee, Wis.
- 823,680. Tire cover. J. P. Gordon, Columbus, Ohio.
- 823,839. Tire. W. M. Wright and E. Carson, Beaver, Pa.
- 823,918. Eraser. F. M. Burrows, Pittsburgh, Pa.
- 823,923. Apparatus for manufacturing rubber footwear. M. C. Clark, Providence, R. I., assignor to Marvel Rubber Co., a corporation of Rhode Island.
- 823,924. Manufacture of rubber footwear. *Same.*
- 823,925. Manufacture of rubber footwear. *Same.*
- 823,926. Manufacture of footwear. *Same.*
- 823,928. Process for manufacture of vulcanized footwear. *Same.*
- 823,938. Wheel. [With elastic tire.] M. Dixon, Long Island City, N. Y.
- 823,975. Device for filling fountain pens. H. B. Smith, Janesville, Wis.
- 824,041. Implement for putting on pneumatic tires. P. F. Pil-liner, Philadelphia, Pa.
- 824,048. Insulated coil for electrical apparatus and process of making the same.
- 824,071. Rubber balloon bag. H. B. Faber and H. E. Seal, New York city, assignor to Rubber Balloon Co. of America, New-ark, N. J.

Design.

- 38,095. Rubber binding. C. E. Knapp New York city. *Claim.*—The ornamental design for rubber binding as shown.

Trade Marks.

- 17,369. Atomizers and powder blowers. The DeVilbiss Mfg. Co., Toledo, Ohio. *Essential feature.*—The word DEVILBISS
- 17,733. Golf balls. The Kempshall Mfg. Co., New York city. *Essential feature.*—The word FLYER.
- 18,633. Rubber heels. Thompson-Ehlers Co., Chicago. *Essential feature.*—The word VICTOR.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each, postpaid.]

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1905.

* Denotes Patents for American Inventions.

[ABSTRACTED IN THE OFFICIAL JOURNAL, MAY 30, 1906.]

- 1,703 (1905). Heel protector. T. H. Roberts, St. Annes-on-the-Sea, Lancashire.
- 1,704 (1905). Means for preventing puncture and side slip. S. Shepherd, Meadow View, Brightside, and T. A. Vincent, Sheffield.
- 1,707 (1905). Colotomy truss. E. E. Hyatt, Queensbury, near Bradford, Yorkshire.
- 1,746 (1905). Means of attaching a tire carrying rim to wheel felloe. M. A. Lemmercier, Paris, France.
- 1,757 (1905). Mold for tires [having recesses on each side which receive the wires and form the beading]. T. J. R. Clarkson, Aston Manor, and G. Welch, Erdington, both in Warwickshire. (No patent granted—sealing fee not paid.)
- 1,790 (1905). Buoyant wearing apparel. H. G. Forrester, London.
- 1,989 (1905). Heel protector. C. P. Horton, Birmingham. (No patent granted—sealing fee not paid.)
- 2,025 (1905). Hat pad. [Inflation takes place through a flexible tube inside the pad.] A. Dunhill, Great Missenden, Buckinghamshire.

[ABSTRACTED IN THE OFFICIAL JOURNAL, JUNE 7, 1906.]

- 2,252 (1905). Leather band for preventing slipping and punctures in pneumatic tires. L. Cox, Birmingham.
- * 2,255 (1905). Elastic tire. J. A. Swinehart, Akron, Ohio.
- 2,281 (1905). Band, consisting of metal segments, for preventing skidding of pneumatic tires. C. L. Harrison, Birmingham.
- 2,454 (1905). Method of attaching elastic tires to rims. H. H. Lake, Middlesex. (E. Cantono, Rome.)
- * 2,457 (1905). Fountain pen. J. Y. Johnson, London. (Eagle Pencil Co., New York city.)
- 2,517A (1905). Vehicle wheel. [The tenons of the spokes are formed wedge shaped the full width of the felloe, which is formed in segments bearing on an interposed layer of India-rubber. T. Gare, New Brighton, Cheshire.
- 2,572 (1905). Heel protector. F. A. Ellis, London.
- 2,575 (1905). Method of utilizing India-rubber waste. R. R. Gubbins, London.
- 2,592 (1905). Steel band for retaining solid tires. M. Polack, Thuringia, Germany.
- 2,655 (1905). Method of devulcanizing waste rubber and utilizing the same. C. A. R. Steenstrup and Aktieselskabet Gummi-Regenerations-Societet (System Resen Steenstrup), Copenhagen.
- 2,671 (1905). Fountain pen. T. De La Rue & Co. and E. De La Rue, London.
- 2,706 (1905). Pneumatic tire. [The thick tread part of a cover formed with the bottom and sides in one piece fits into a gap formed in the cover, which is molded with flanges and beadings engaging with recesses formed in the tread part.] S. Lawton, Manchester.
- 2,747 (1905). Method of preserving electric cables. [In cables insulated with India-rubber an oilproof coating is placed between the rubber and the outer cover.] C. J. Beaver, Cheshire, and E. A. Claremont, Manchester.

[ABSTRACTED IN THE OFFICIAL JOURNAL, JUNE 13, 1906.]

- 2,704 (1905). Life boat. [Near the gunwale at each side of the boat is attached a tube of India-rubber held in a covering and supported by a trough to which it is secured by bolts.] L. Robinson, Newcastle-on-Tyne.
- 2,848 (1905). Elastic tire [the base of which is formed with wedge shaped keyways in which engage keys formed on the side flanges of the rim]. J. C. and J. T. Akermann, London.
- 2,870 (1905). Elastic tire [formed to receive blocks of rubber capable of radial adjustment for wear]. W. B. Hartridge, London.
- 2,970 (1905). Elastic tire. G. Bardet, St. Leu Taverny, Seine-et-Oise, France.
- 2,977 (1905). Vehicle wheel. [For securing a pneumatic tire the rim has one side flange detachable.] J. M. Padgett, Topeka, Kansas.
- 3,043 (1906). Elastic tire. [To permit the whole of the tire to be utilized as it wears down, the rim flanges are replaced inward-

ly so that any amount of the tire projects beyond the flanges.] W. B. Hartridge, London.

- 3,091 (1905). Pneumatic tire [provided with one or more rows of inclined recesses which may be charged with compressed air]. C. Burnett, The Grange, Durham.
- 3,144 (1905). Spray producer. O. A. Elias, London.
- 3,172 (1905). Leather band for preventing slipping of pneumatic tires. J. Albiston and W. Lobeck, London. (No patent granted—sealing fee not paid.)
- 3,220 (1905). Leather cover for wheel tire. W. J. Donald, Glasgow.

[ABSTRACTED IN THE OFFICIAL JOURNAL, JUNE 20, 1906.]

- 3,322 (1905). Method of cutting rubber heels, washers, etc. W. Butters, Dundee, Scotland.
- 3,326 (1905). Dental instrument [consisting of a rubber piece fastened to a handle and formed with a projection for pressing the material into the cavity]. P. F. Rutterford, London.
- 3,354 (1905). Exercising apparatus. F. M. Cleese, London.
- 3,412 (1905). Golf ball [the center of which consists of aluminum or steel]. J. W. Stocker, London.
- 3,413 (1905). Cover for pneumatic tire [constructed with endless warp threads]. C. L. Marshall, Surrey. (Grant of patent opposed.)
- 3,428 (1905). Protective device for preventing skidding of pneumatic tires. W., T. W. H., and P. C. Philipson, all of Holland Street Iron Works, Bolton, Lancashire.
- * 3,499 (1905). Vehicle wheel. [A rim having one or both edges removable to facilitate attachment and detachment to the tire, and reversible to accommodate tires of different sizes.] F. A. Seiberling, Akron, Ohio.
- 3,559 (1905). Boot. [A waterproof lining is made in one piece from India-rubber molded into a shape somewhat like an overshoe.] W. J. Robinson, Tyrone, Ireland.
- 3,572 (1905). Pneumatic tire. [Metallic rivets or studs are used in the cover.] C. Joly and R. Boucher, London.
- 3,598 (1905). Pneumatic tire [inflated by means of a cartridge containing air under pressure]. A. G. Lavertine and J. E. McNellan, Johannesburg, Transvaal.
- 3,673 (1905). Non-slipping tread [made of leather for the soles and heels of boots and shoes and formed to receive a number of rubber studs]. T. Spencer, and Spencer's Dovetail Heels, Ltd., Cardiff, Glamorganshire.
- 3,729 (1905). Sole and heel protector. P. T. Barlow, Brinnington, and F. Brocklehurst, Stockport, Cheshire.
- 3,744 (1905). Method of forming recesses in washers for use with rivets and applicable to form outside wearing surfaces for pneumatic tires. A. W. Knight, London.
- * 3,765 (1905). Elastic tire [formed in length with a stiffened base of ply fabric, which is capable of elastic buckling laterally]. W. Langmuir, New York city.
- * 3,772 (1905). Reversible tire cover [consisting of a metallic fabric having the warp composed of twisted strands of wire each comprising a number of strands twisted about a fibrous core]. A. H. Rochfort, Point Reyes, California.
- 3,792 (1905). Cover for pneumatic tire. S. W. Carlton, London.

THE FRENCH REPUBLIC.

PATENTS ISSUED (WITH DATES OF APPLICATION.)

- 359,892 (Feb. 6, 1905). Aubry and Jolibois. Decorticating machine.
- 359,942 (Nov. 29). H. H. Frost. Vulcanizing machine.
- 359,947 (Nov. 30). E. Louet. Puncture proof tire.
- 360,008 (Dec. 1). O. Englebert Fils & Cie. Puncture proof tire.
- 360,043 (Dec. 2). Benoit-Martinot and Lucas. Tire protector.
- 360,051 (Dec. 2). Continental Caoutchouc and Gutta Percha Co. Multiple pneumatic tire.
- 360,149 (Dec. 6). Herault. Detachable tread.
- 360,090 (Dec. 5). Bretnacher. New use for substitute rubber commonly called "Lynosyne."
- 260,203 (Nov. 30). E. Charles. Tire protector.
- 360,342 (Dec. 12). A. de Laski and Thropp. Rubber thread tissue.
- 360,225 (Dec. 8). Metallo-elastic tire.
- 360,393 (Dec. 13). A. Booker. Rubber tire.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Bobet, Ingenieur-Conseil, 16 avenue de Villiers, Paris, at 50 cents each, postpaid.]

AIR DRYING VERSUS VACUUM DRYING.

THE usual method of drying rubber is by means of hot air, passed through drying rooms by means of fans or similar devices. It is an established fact that this type of drying is most uneconomical, as only about one-third of the heat carried by the air is given up to the material that is to be dried and consequently about two-thirds of the fuel consumed is wasted. The reason is that, though the charging capacity of hot air with moisture is naturally greater than one-third, still if any evaporation at all on a commercial basis is to be achieved, the air has to travel rapidly through the drying rooms and consequently is unable to utilize all of its carrying capacity. If the air is allowed to travel at a slower rate and thereby given opportunity to charge itself with a higher percentage of moisture, the evaporation becomes sluggish and the results are the same.

It should also be remembered that the large volume of air required for effective drying absorbs much motive power for the driving of a fan and thus adds to the cost of the process.

Another thing, the materials to be dried have to be placed sufficiently far apart to allow a free passage of the heated air so that the buildings occupy considerable space, and the process is necessarily of long duration, thus tying up capital and causing loss of interest and the payment of high insurance premiums.

A further disadvantage of the hot air system is that it unavoidably carries quantities of dust with the hot air, which is deposited on the wet and adhesive surfaces of the drying materials, in many cases destroying their value. This dust nuisance may be avoided only by installing large and expensive dust filters.

The dust drawback cannot take place under the vacuum system, as the vessels used for this purpose are hermetically sealed. Further, an advantage of the drying in such vessels is that the process is entirely independent of any climatic conditions, which largely influence all drying under atmospheric pressure.

Moreover the hot air drying has a tendency of hardening some materials, as for instance, is shown by the considerable shrinkage and wrinkling of the air dried leather.

If any porous fabric is treated under vacuum instead of closing up its pores, the very reverse is obtained by rapid boiling, the water being removed from the interior almost as rapidly as from the surface. This will be particularly referred to later on in a specification of a new impregnation process.

The above drawbacks attached to the drying methods at present used have led to a very general use of a vacuum in the place of hot air, with most satisfactory results, and among the most suitable vacuum apparatus with condensers and vacuum pumps, are those of the Emil Passburg System.

By this it is possible not only to remove moisture economically, but also to remove it at so low a temperature as to absolutely exclude deterioration in quality. It is also the only means for quickly and absolutely removing all moisture. This latter item is one of the most important features where insulating material for electrical apparatus is concerned. In this it is not the gain of time or application of a

low temperature which is of the greatest importance, but the dryness of the insulating material, as only an absolutely dry insulator can insure a perfect conduction of electricity.

With drying by means of hot air, the drying material can never be brought to a higher degree of dryness than the heated air itself, the latter naturally always carrying a small percentage of moisture, and even could the drying material go below this percentage, it would naturally re-absorb the moisture from hot air.

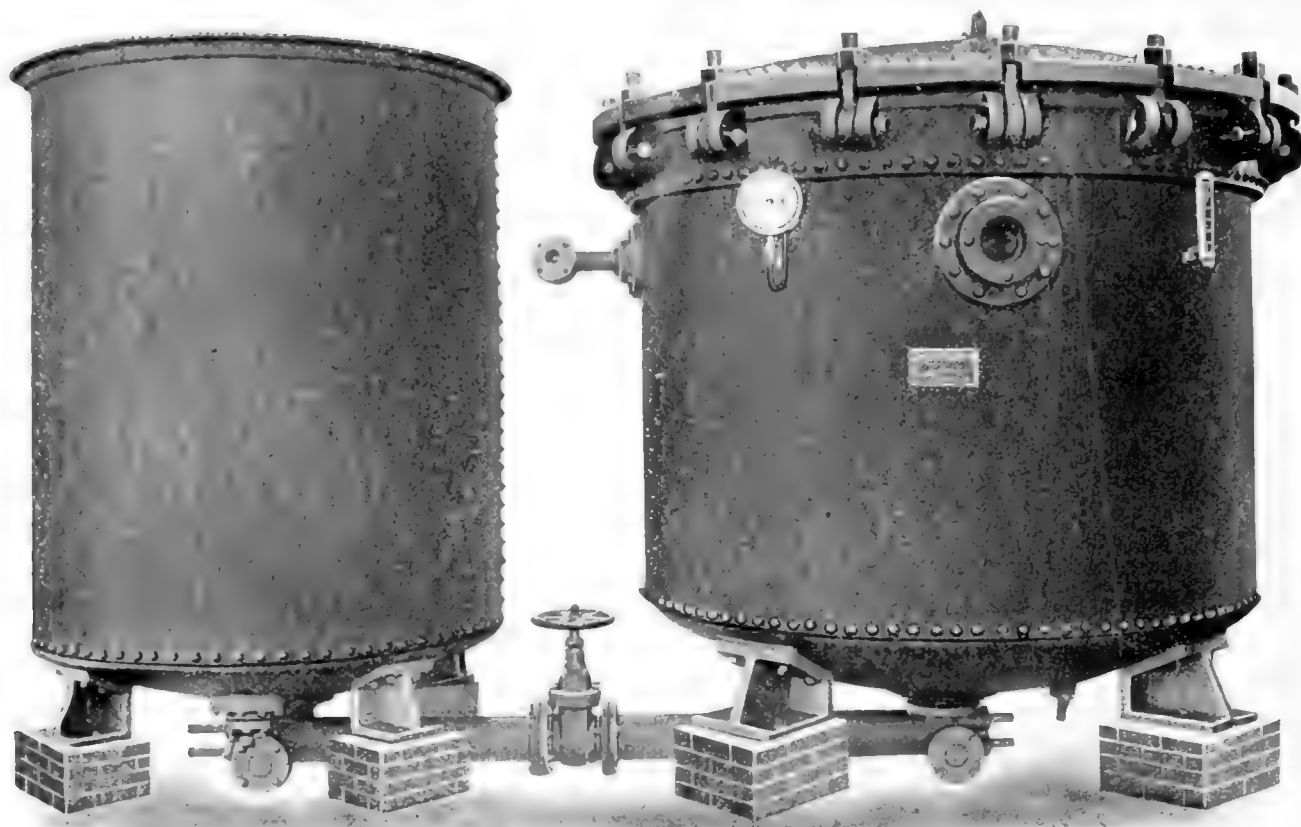
Under vacuum the slow evaporation such as exists under atmospheric pressure is turned into a rapid boiling of the water, not only not raising but lowering the temperature, as the boiling point is reduced from 212° to about 95° F. This also explains the enormous saving of time in removing the water and the saving of heat or fuel, as naturally much fewer units of heat have to be transmitted to be evaporated.

Certain materials for certain purposes have to be impregnated with various kinds of colors, dyes, or compounds, for water repelling, insulating, acid resisting purposes, etc., according to the purpose they are to be used for, but notwithstanding the perfect state of dryness of materials treated under vacuum, defects will appear after such impregnation if done under atmospheric pressure. The reason for this is that the impregnation is not thorough. In other words, the inner parts of the materials were not at all or only insufficiently impregnated. It was found that when these compounds were of a very heavy nature, even at a high temperature they could not penetrate closely woven fabric or the pores of materials on account of the air contained within. Then, too, such liquid moved sluggishly and with great friction.

Now it has been found that removing all air from the pores *in vacuo* that the impregnation was complete. This is done in a specially constructed apparatus. To explain this improvement, it must be borne in mind that by such evacuation not only the air is removed from the material that is to be impregnated, but in addition to this the assistance of the atmospheric outer pressure under which the impregnating compound was entering the insulating material was obtained, a pressure varying from 14 to 15 pounds. Even by means of such improvement, the modern requirements for insulating material used in the electrical trade could not be satisfied. The electrical current of high tension required still better insulation.

To obtain this, the following means were adopted: After having allowed the impregnation compound to enter the vacuum impregnation vessel by means of the outer atmospheric pressure, this was increased by adding artificial pressure (compressed air) to the required extent, so that not a particle of even the innermost insulating material, was left free from compound, no matter how it was protected by outer layers of covered wire. Naturally, the vessel in which this impregnation takes place must be made strong enough to stand an outer pressure and also afterwards an inner pressure.

The enforced impregnating or combined impregnating process under vacuum, together with artificial pressure, is only necessary for materials which are of a very close texture



VACUUM DRYING AND IMPREGNATING APPARATUS.

[As made by the U. P. Dev. Co. (Buffalo, New York) on U. S. American Rights granted to them by the firm of Emil Passburg, Berlin.]

or have to be treated with very heavy compounds. It must not be understood that the drying under vacuum and impregnation under vacuum and afterwards under higher pressure must necessarily take place in the same vessel. The drying under vacuum may take place in one vessel and the impregnation in a second one. When removing the material from the vacuum dryer into the vacuum impregnator, it is necessary to break the vacuum in the former vessel and allow the atmospheric air to enter it and naturally the pores of the insulating material. As this air only fills such pores once and can only once deposit the moisture it carries, such moisture will have no detrimental effect whatever, as in the first place it has no circulation and but little enters anyway, as such. In addition to this, as soon as the material is placed in the vacuum impregnating vessel, the latter, which can be fitted with heating coils, etc., is evacuated and the material is not only at once freed from the atmospheric air, but also from any particle of moisture which it could possibly have absorbed during this short interval. This is only mentioned so as to dispel any doubts as to the impracticability of using two instead of one vessel for drying and impregnating.

As in many cases solvents of a volatile nature are used with compounds for impregnation for the above described purposes and as the drying and impregnation process takes place under vacuum and as consequently if with such vacuum impregnation and drying vessels, vacuum pumps

and suitable condensers, are connected, any volatile solvents, apart from the water which naturally is being removed during the first drying process, and before the impregnation process, can be regained in such condensers during the second drying.

The whole resolves itself, therefore, into three processes: (1) to dry under vacuum; (2) impregnation under vacuum, with the assistance of the outer atmospheric pressure; and (3) to increase this impregnation by artificial pressure in addition to the atmospheric, of which the advantages as compared with the former processes have been above described; (4) to further the recovery of all valuable solvents.

ONE of the minor uses of India-rubber which in the aggregate has become important is in connection with carpet sweepers. The amount required for a single sweeper is not large, but on the whole the rubber required runs into many tons annually. Each sweeper has four wheels, and each wheel has a rubber tire. Besides this, the mechanism of the sweeper is operated by means of a small rubber belt connecting with each axle. When it is remembered that the Bissell Carpet Sweeper Co. (Grand Rapids, Michigan) alone turn out 7000, or more than 2,000,000 a year, the importance of this industry to the rubber trade can be easily appreciated. The rubber bands used are manufactured especially for this concern by one of the largest rubber concerns in the United States.

HOW RUBBER ARRIVES AT NEW YORK.

OF the many interesting sights along the water front of a great seaport, there is none more fascinating than to witness the discharging of cargo from the large ships. There is always something new to be seen, at least to the average observer—indications of unfamiliar channels of trade, or the sight of commodities that he has not seen before, and there is a charm in the glimpses of foreign life that may be gained. Not least interesting is the business of receiving crude India-rubber, especially the cargoes which arrive at New York several times each month, by steamer from the Amazon.

Few people not in the trade would imagine how much skill and labor are required in stowing and discharging a large consignment of rubber, and the rolls of red tape that must be unwound before the last operation has been completed. Rubber from the Amazon arrives packed in wooden cases, the weight of the contents varying with the grades of rubber, the finer sorts being packed in the smaller cases. Fine Pará rubber usually is packed 170 kilograms (=374 pounds) and coarse 320 kilos (=704 pounds) to the case. The cases are of inch pine stuff, which generally has been shipped from New York. The packages containing Caucho are apt to be less regular in size, being often the empty goods boxes for which the local merchants in the rubber country have no further use.

The rubber being subject to an export duty at the point of shipment—Manáos or Pará—is carefully weighed at starting in order that the taxing authorities may exact the utmost milreis. That detail having been disposed of, the rubber is replaced in the cases, which are securely fastened with metal bands, and put on board a steamer, which often carries nothing else. The rubber is "stowed" in the hold with such nicety that the shipment seems to have been made to fit the vessel, and so as to preclude the possibility of a shifting of the cargo in case of rough weather. As the basis of freight charges is the space occupied, and not the weight, it is desirable to get as much rubber as possible in the space paid for. Hence the rubber is tightly packed in the cases, for which purpose the great smoked balls or "hams" are

cut into pieces which will fit closely, and the packing cases are regular in shape to further promote economy in space.

Right here it may be noted that in the increased shipments there is an indication of the enormous growth in the consumption of rubber that has taken place in the past quarter century. Whereas formerly an occasional schooner brought rubber to New York, and a consignment of 50 tons was considered large, now there is a regular service of steamers, arriving with from 200 to 1000 tons of rubber aboard, the details of which are cabled ahead.

A day or two before a ship is expected, the agent to whom it is consigned goes to the New York custom house and makes a declaration of her cargo, whereupon a preliminary or conditional "paper" is issued, allowing the agent to begin to discharge the cargo without delay. Sometimes two, or even three days elapse before the final papers are issued, and by that time much if not all of the cargo has been removed from the ship, which, by the way, ties up at a wharf, contiguous to a bonded warehouse.

As soon as the ship is warped into the dock, preparations are made for unloading. Close by each hatchway is a steam winch and an imposing array of blocks, falls, and tackles, all ready for business almost before the captain goes ashore to report his arrival. A boss stevedore with several assistants and foreman and a large number of minor employes are on the dock waiting for the word to begin. They are a sturdy, business like lot of fellows. They work rapidly, skilfully, and quietly, shattering to bits any romantic ideas of them the spectator may have imbibed from novels or newspapers. With much precision and in perfect harmony they set to work and the way the cargo disappears from the ship, reappearing in neatly arranged piles on the dock, is marvelous.

When the signal to commence has been given, the donkey engine starts up, the winch revolves, and a rope with a huge hook dangling from its end descends into the ship's hold. Almost instantly it reappears, bringing with it a case of rubber which it lands on the dock. There the case is loaded on a small truck and a stevedore wheels it toward



RUBBER IN CASES ON THE DOCK.

[The long cases contain fine Pará rubber, just removed from the steamer seen beyond.]



WEIGHING RUBBER AT BROOKLYN.

[An empty package is being weighed; the rubber appears in a pile in the foreground.]

the shoreward end of the dock. The freight of each individual consignee is kept by itself, and no piece is allowed to be again handled until the entire cargo has been unloaded. All this is done under the watchful eye of employes of the steamship company, checking off, against the ship's "manifest," the packages of each shipper. When the ship is "clear" the next operation is the weighing.

The rubber cases are trucked out into a large open space between the wharf and the warehouse, and dropped into what, if it were not on private property, would be called the street. Here is set up a weighing device not unlike a huge steelyard. A case of rubber is opened and the rubber taken out and weighed. Then the case itself and everything that went to make up the package, even to the iron strap and the very last nail, are also placed on the steelyard. The rubber is then carefully repacked and the box marked with the gross, tare, and net weights.

The object of this weighing is to enable the consignee to know just how much rubber he has received, and not as a check upon the weighing done at the Brazilian ports, for it must be understood that the rubber shrinks considerably on the voyage. Some of the larger importers employ their own weighers, and there are independent weighers at hand for those who desire their services. The customs officials are not concerned about the weighing. There is no import duty on rubber, and Uncle Sam's statistics of imports of this commodity are based upon the ship's manifest.

When the box has been weighed and marked it is ready for its final disposition, so far as the importer is concerned. The steamship company is through with it, and so are the customs inspectors. If the destination of the rubber is Boston or Providence, it may be lightered to a steamboat running to one of those cities, or it may be loaded onto a freight car standing on the spur railroad track that runs through the yard. It may be loaded onto a truck and carted to the consignee's own storehouse, or it may be sent across the street to the bonded warehouse to be stored until it is wanted. If the consignee for any reason is not prepared to move his stuff, he may leave it on the dock for six days, storage being charged from the date of the actual warehousing.

Sometimes no part of a consignment is sent to the warehouse, because it was sold before it arrived, or the importer knows where it can be sent immediately to advantage. If it goes to the warehouse it must be reweighed when it is taken out, for even the best rubber is susceptible to shrinkage, and no buyer cares to pay \$1 or more per pound for more rubber than he actually gets.

All the rubber received at New York of course does not arrive by the steamers from the Amazon. Rubber is brought in nearly all the important transatlantic steamers, and in the smaller boats arriving from Central and South American ports; there are almost daily arrivals, forming a comparatively unimportant part of the cargo, which is handled from the piers of the different lines in the same way as other cargo. It comes in cases, bales, casks, bags—a most miscellaneous collection it would make if it could all be brought together. In weighing some classes of rubber the weight of the wrapping as forwarded by the shipper is accepted, and deducted from the weight of the package as it is received. The remainder is the weight of the rubber.

Last year 35 steamers arrived from Pará (most of them

having touched also at Manáos) with important cargoes of rubber. Four steamers in a single month brought an average of more than 2,000,000 pounds of rubber each, for which the consumers paid probably as many dollars, so it will be seen that the cargoes from the Amazon are of great value. There are dull seasons in this trade, however, and at times the Pará steamers carry less rubber than of other commodities. A recent arrival was a steamer with a comparatively small amount of rubber, but with 600 tons of Brazil nuts, poured loose into the hold. Pará rubber reaching New York is taken by a small number of houses, devoted especially to importing rubber. On the manifest, however, rubber frequently appears consigned to banking institutions, just as happens in the case of the import trade generally—a feature of the financing of large shipments. Likewise a rubber house may have consigned to it a cargo of nuts or skins or feathers, but this does not indicate that the house is taking on a new department of business. Merchants in the Amazon region make remittances in the form most convenient, and it may be in the form of feathers.

WHENCE THE RESIN IN RUBBER?

TO THE EDITOR OF THE INDIA RUBBER WORLD: The plantation rubber cured by the process described by me in a recent number of THE INDIA RUBBER WORLD [March 1, 1906—page 188] was found by the factory, which purchased it, to contain a large percentage of resinous matter, though not as much as rubber cured on a neighboring plantation from trees of the same age by evaporation or absorption only.

Further study leads me to believe that planters have been misled by the demand of manufacturers for a perfectly dry rubber. To dry perfectly, one must make rubber into very thin sheets, pancakes, or crêpe. Complaint is made of all these, whether they be of *Castilloa* or Pará, and the reason would seem to be resin. Whence the resin? That is a question I wish manufacturers and planters would set themselves to answer at once. It will take the planter alone years to answer, because he is not a chemist. If the manufacturer will help, it will take weeks only.

I submit for consideration my view, based on a planter's observation. Resin or the most of it seems to be due to drying and exposure. *Castilloa*, the core of a ball of the finest Pará, and the best Congo, cut thin and thrown into a drawer for a few months, became almost equally gummy any pasty, a state which I assume to indicate resin. *Castilloa*, if kept long enough, will run down from the shelf, here, like tar. The white core (that is to say, the part not completely dried) of a thick piece of plantation *Castilloa* answers all the visual and tactual tests of the best Pará, while the dry skin is short and tacky, the more the older. What takes place? Is it due to oxygen, light, or bacteria? Will some one make tests of the white hermetically sealed core and the black rim of a ball of Pará, of white quen plantation *Castilloa*, and thin, sticky pancakes or sheets of the same of crêpe, of rubber milk, etc.?

If the resin does not come out of the tree, the planter will know what to do and the manufacturer will doubtless reform his method of drying by exposing for weeks or months thin sheets of mangled rubber.

GORDON WALDRON.

Ruefied's Nicaragua June 14, 1906.

AMAZON STEAM NAVIGATION.

TO THE EDITOR OF THE INDIA RUBBER WORLD.—The directors of the Amazon Steam Navigation Co., Limited, will recommend to the shareholders at the annual meeting to be held on the 27th inst., the payment of a final dividend of 3 per cent. (7s. 6d. per share) in respect of the second half of the year 1905, making 5 per cent. for the year.

G. STREET & CO., LIMITED

London, June 24, 1906.

GOOD QUALITY OF CONAKRY RUBBER.

THE best rubber from French West Africa, writes the British consul general at Dakar, the rubber known as Conakry "niggers," continues to be exported in sacks bearing the customs seal as a guarantee of quality, but every other quality may be exported without it. The result of this compromise is that Conakry "niggers" have maintained their price. The application of the new regulations had a most marked effect in the Beyla district of Upper Guinea. The rubber produced there improved to such a degree that in April, 1905, it was given a special quotation on the Bordeaux market under the appellation of Beyla "niggers," and at once ranked with Conakry "niggers." Because of its backward state the new regulations are not to be introduced into the Lower Ivory Coast until 1907; but they have been introduced into the upper districts.

IMAGINARY RUBBER GATHERING.

THE INDIA RUBBER WORLD has received from Mr. John J. Voorhees an illustration of rubber gathering which he in turn received from R. F. Sears & Co. (Pará), as far back as 1894. The picture is done in colors and shows a fertile spot, presumably on the banks of the Amazon, on which are growing a number of very thrifty palm trees. On the trunks of these trees appear huge fungus like objects, presumably hams of Pará rubber, which gaudily clad natives are cutting off with hatchets. Distributed among the palms are several cactus plants of the type that in reality grow only in dry desert regions. As a freak of the imagination the whole picture is delicious, and its title "Natives gathering pure Pará rubber" wonderfully informing.

A RUBBER YARN FROM PENANG.

THE latest India-rubber lie, told me by a rubber-necked planter the other day, says a correspondent of *The Malay Mail*, is that a patent is being brought out to check the stealing of latex on estates. It is a very simple affair and simply consists of a meter attached to the tap root of the tree. This is read periodically and thus the returns from the tree are constantly checked and pilfering can be detected, for if a coolie inadvertently or maliciously lets a tap root remain running, the meter announces the fact. Are not the inventions of the modern scientist wonderful in the extreme?

SPECIMEN OF MALAY STATES NEWS.—Some 10,000 rubber trees are being tapped on the Kent estates, at the rate of about 2000 a day.—*Malay Mail*.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values of exports of manufactures of India-rubber and Gutta-percha, for May, 1906, and the first eleven months of five fiscal years, beginning July 1, from the treasury department at Washington:

MONTH.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber	TOTAL.
May.	\$ 83,305	\$ 94,478	\$ 319,339	\$ 497,122
July-April.	1,035,705	1,069,349	2,769,180	4,765,534
Total.	\$1,119,010	\$1,163,827	\$2,688,519	\$5,229,845
Total, 1904-1905.	802,232	1,135,619	2,327,757	4,355,599
Total, 1903-1902.	802,985	1,045,192	2,212,139	4,060,307
Total, 1902-1901.	783,239	1,066,982	2,175,925	3,886,143
Total, 1901-1900.	578,572	981,358	1,977,448	3,197,078

DUTY ON TIRE TREADS. Certain automobile tire treads imported at New York were assessed for duty at 40 per cent. *ad valorem*, under paragraph 450 of the tariff act, relating to "vulcanized India-rubber known as hard rubber." The protest of the importer was sustained by the United States general appraisers, on the ground that the goods in question were not what is known commercially as "hard rubber," and were dutiable at 30 per cent. as manufactures of "vulcanized India-rubber," under paragraph 440.

GARDEN HOSE IN SOUTH AFRICA.—The Canadian commercial agent at Cape Town reports: "Large quantities of garden hose are imported, and the varieties most in demand are the plain rubber and armoured (wired) types, $\frac{1}{2}$ and $\frac{3}{4}$ inch, three ply in 50 foot rolls. The principal suppliers are the United States, England, and Germany."

WHERE RUBBER HEELS ARE PUT ON.

THE Boston *American Shoemaking* says: "Seeing that rubber tips have taken such hold of the public it is surprising how few samples one sees in the factories having rubber top-lifts affixed. Unquestionably thousands of pairs of shoes have rubber tips added to the heels and which to a shoe-maker have the effect of spoiling the range of the shoes when added to heels already sufficiently high according to the last shape. One can only regard this as due to retailers generally selling and attaching tips as an 'extra' to be paid for accordingly."

CHICLE is beginning to appeal to British interests, according to *Modern Mexico*, which mentions H. Plummer, of England, as attempting to secure control of Chicle producing areas in Yucatan, with a view exporting the product to Liverpool. The intended use of the material is not stated. Hitherto the principal consumption of Chicle has been in the United States, for making chewing gum, but this is an article not known to have found much favor elsewhere.

GUTTA-PERCHA tissue, such as tailors use, is now very little imported into the United States, whereas at one time almost the total consumption was supplied from abroad. It is estimated that the trade in such tissue now amounts in value to \$300,000 a year, and is supplied principally by two manufacturers.

Speaking of this tissue it is a bit remarkable but it is generally known by tailors as rubber tissue.

RUBBER PLANTING INTERESTS.

THE TOLOSA RUBBER CO

THIS company has been formed under the laws of Massachusetts to succeed to the assets of the Ubero Plantation Co. of Boston. The treasurer, Mr. W. L. Wadleigh (No. 176 Federal street, Boston), recently returned from a visit to Mexico, and a report has been issued to the shareholders, indicating that the best asset of the company is the four year old planting of *Castilloa* rubber, numbering about 120,000 trees, on 253 acres. The two year old planting has suffered from lack of attention, but 16,600 trees, on 173 acres, are considered as worth further care. The question of taking final title to 1000 acres from the Old Colony Trust Co. is now being considered. There have been issued 20,646 shares of stock, of the par value of \$10.

PROGRESS OF THE BUKIT RAJAH COMPANY.

THE second annual report of the Bukit Rajah Rubber Co., Limited, with plantations in Selangor, Federated Malay States, shows that 34,457 six and seven year old rubber trees (mostly *Hevea*) were tapped during the business year, yielding 33,203 pounds, which sold in London at an average of 5s. 5d., the total being equivalent to \$43,748.27, gold. The yield the year before was 6711 pounds, and the estimate for the second year 25,000 pounds, which, it will be seen, was largely exceeded. There was some income from coffee and cocoanuts, and £662 16s. 7d. from rubber seeds. A dividend of 6 per cent. was declared, the share capital issued standing at £61,000 [= \$296,856.50].

YIELD OF THE PATALING ESTATE.

At the third annual meeting of the Pataling Rubber Estates Syndicate, Limited (London, May 17), the report stated that during the business year 25,700 pounds of rubber had been gained from about 25,000 trees, many of them tapped for the first time. These trees will now be tapped continuously. Up to the first quarter of the current year some 8000 pounds of rubber had been gathered, as against 3000 pounds in the first quarter last year. The dividends for the year amount to 20 per cent. The estate is located in Selangor.

GOVERNMENT PLANTATION IN BURMA.

EXPERIMENTAL rubber tapping in the Mergui experimental gardens, in Burma, was begun in the official year 1903-04, for the purpose of studying the best practice in dealing with *Hevea* rubber under cultivation. Several hundreds of pounds of rubber collected was sold in London at good prices. In 1904-05 like experiments were conducted, and 1460 pounds of dry rubber realized, which also was despatched to London. The planting of additional *Hevea* rubber last year was interfered with by the destruction of the seed by the canker fungus. There were added 2969 *Castilloa elastica* plants and 296 *funtumia elastica*, from seeds obtained in Trinidad.

RUBBER PLANTING INTEREST IN NICARAGUA.

THE INDIA RUBBER WORLD has seen a business letter from Nicaragua to the writer's New York correspondents, but not meant for publication, which is of interest as showing the serious attention which rubber culture is receiving in the vicinity of Bluefields. It mentions the result of tapping (though in a small way, as yet) on two plantations; the reported proceeds of sales, in the United States, of the product, on a larger scale, of another estate; and negotia-

tions for the sale of two rubber properties, not included in the above, at prices which would indicate that a rubber plantation, even not yet in full tapping, is regarded as an asset of value in that community, where the development of the trees has been a matter of common knowledge from the date of the first planting. Evidently rubber culture is getting upon a business basis there.—Mention may be made here of a method of coagulation described in the letter: "A strong lye is made from whit, called mosquito whit, 1 pint to 3 gallons of which will coagulate in less than one minute; then press into a sheet until all the black water is extracted; also soaking in water will make the rubber clearer and a dark amber color."

HIGH VALUATIONS OF RUBBER TREES.

A WRITER in *The Financial News* (London) has devoted no little care to an analysis of the published data regarding three of the best known rubber plantation companies operating in the Far East—companies "of the highest respectability and well established on the market." One result is a computation of the average value per acre planted to rubber, based upon the market valuation of the company shares of capital issued, as follows:

		Per Acre.
Anglo-Malay Rubber Co.	£230	[\$1018 90]
Bukit Rajah Rubber Co.	117	[- 569.38]
Consolidated Malay Rubber Estates	142	[- 681 12]

There is not taken into consideration any assets which the estates may embrace, in lands or otherwise, apart from the reported acreage of planted rubber. A second table, based upon a comparison of the reported number of trees of different ages, and involving more mathematics than there is space for here, gives the present market price, so to speak, of a cultivated *Hevea* tree which has reached the age of 6 years, and is therefore capable of producing a comparatively substantial amount of rubber. The assumption is that 200 trees have been planted to the acre:

		Per Tree.
Anglo-Malay Rubber Co.	£3 10s.	[\$17 03]
Bukit Rajah Rubber Co.	2 5s. 6d.	[- 11.06]
Consolidated Malay Rubber Estates	2 17s. 6d.	[- 13.98]

The conclusion of this writer is that it would "appear a great question whether shares and prices have not now reached a level higher than is justified, and higher than is likely to be maintained."

NO DANGER OF OVERPRODUCTION.

FROM data collected by the *Chronique Coloniale* (Brussels) that paper is disposed to regard as without foundation any fear that overproduction of rubber is imminent. Without dealing with all its figures, it will be enough to quote: "Let us further suppose that the yield from natural sources remains about the same as at the present time, that is to-day 60,000 tons per annum (this is purely a gratuitous supposition, however, since experience proves that the production from the forests is continually diminishing everywhere) it is absolutely certain, having regard to the persistent increase in demand—an increase which is accentuated year by year to a point where the market actually suffers from want of supplies—that before 1912, the consumption will absorb a minimum of 80,000 to 100,000 tons. The assertion is therefore warranted that for many years to come, the entire production of rubber, no matter what pretensions it may assume, will be widely absorbed; and if the present industrial expansion continues, it is safe to assume that future supplies will not be able to satisfy the increased demand which must inevitably follow."

RUBBER INTERESTS IN EUROPE.

THE CONTINENTAL COMPANY'S EMPLOYEES' HOMES.

THE measures taken by the Continental Caoutchouc und Guttapercha Co. (Hanover, Germany) for the welfare of their employés have been referred to already in these pages, though no reference has been made to the plan of providing improved houses for their working people, the first of which were opened for occupancy on April 6, 1905, in the presence of a number of representatives of the imperial and municipal governments. The plans of the company have met with a high degree of appreciation, and the funds invested up to a recent date had amounted to \$263,000, in addition to the cost of land, comprising 31,139, square feet. There are comprised 83 apartments in the 12 buildings erected to date, the houses being of three classes, designated respectively as being for workingmen, foremen, and higher employés. The flats rent at figures varying at \$32 to \$70 per year for the workingmen, up to \$100 to \$125 for the higher employés. The amount collected for rents has been 2.1 per cent. on the invested capital. The houses are kept in repair and the taxes are paid by the company. In order to secure attractive designs for the buildings prizes were offered to the architects of Hanover. Each house has a garden, in addition to which a large playground for children has been provided. The buildings sheltered at last account 389, persons of which 217 were children. On the completion of the company's tenth year they presented to each employé in their service since the foundation a life insurance policy amounting to \$375, on which the company pay the yearly premiums as long as the employé remains with him. Those employés who were not accepted as risks by the insurance companies received a savings bank book to which the company make an annual addition. At present 233 employés are in possession of such policies or savings bank books. Each foreman on celebrating his twenty-fifth anniversary with the company receives a cash contribution and other employés after 25 years also receive sums in cash. Employés for 10 years or more have an annual vacation with pay, of two weeks a privilege enjoyed in 1905 by 345 persons.

GROWTH OF THE BERLIN-FRANKFORT WORKS.

ANOTHER factory has been acquired by the Vereinigte Berlin-Frankfurter Gummiwaren-Fabriken, making the fifth owned and operated by that company. The new accession is the long established firm of H. Schwieder, Sächsische Gummi- und Guttaperchawaren-Fabrik, at Dresden. The other factories are situated in Berlin, Gross-Lichterfelde, Geluhausen (near Frankfort a/M.), and Grottau. All told, the Berlin-Frankfort company now employ a thousand work-people, and steam engines of 1000 HP. The capital of the company has been increased to 3,500,000 marks, and, with their reserve funds, they command about \$1,000,000. All the mills are very busy, and considerable enlargement has taken place of late in the works at Lichterfeld and Grottau.

GREAT BRITAIN.

=The multifarious nature of the business of the India-Rubber, Gutta-Percha and Telegraph Works Co., Limited, is indicated by the fact that their cable steamer *Silvertown*, after recently completing the laying between Manila and Shanghai of some 1300 miles of cable made by the company for the Commercial Pacific Cable Co. (New York), on her

way home carried a cargo of 4000 tons of rice from Saigon to Holland. This great company accepts with equal readiness orders for ocean cables, bicycle tires, and golf balls, and has for its various purposes a greatly varied equipment, but had not been mentioned before in the general carrying trade.

=The London *Daily Telegraph* says that at the annual meeting in Leeds of the Electrical Contractors' Association of the United Kingdom, which now numbers 250 members, Mr. E. L. Berry (late chairman of the London section) said an agreement had been made by the Cablemakers' Association with the main idea of inducing the members of the Electrical Contractors' Association to use English made cables pure and simple.

=A recently published account of a single British golf ball factory, licensed under the Haskell patents, reports its production at 900 to 1000 dozen balls a day. It has been said that the making of golf balls is as the making of mustard. The latter pays not on account of the quantity used but on account of the quantity wasted. So with golf balls—the lost ones count! Two tons of paint is the annual consumption in the golf ball factory referred to, and over 3,000,000 tissue wrappers are used.

=Macintosh Tyre Co., Limited, has been registered, at Lower Cambridgeport street, Manchester, with £7500 [= \$90,000] capital, to carry on the business of factors and repairers of motor tires. M. Adler is managing director; Charles Macintosh & Co., Limited, the rubber manufacturers hold shares in the company entitling them to nominate two directors.

=Mr. William Firth, who for nearly half a century was secretary of the North British Rubber Co., Limited, and whose death was recorded in our last issue, is mentioned by the *India-Rubber Journal* as having been president of the Astronomical Institution of Edinburgh. Although an extremely busy man in connection with the rubber works, he had long given attention to astronomical observations, and continued his scientific reading as well as his attendance upon the society meetings up to the commencement of his final illness.

FRANCE.

A NEW rubber manufacturing company is the Société Parisienne du Caoutchouc Industriel, at No. 85, quai de Javel, Paris, of which the managing director is William Hausser, formerly with the Société Industriel des Telephones.

THE first annual Federated Malay States dinner in London was attended recently by a number of gentlemen interested in mining, planting, and other interests in the States, most of whom were or had been residents of the English settlements there. The dinner was attended by Sir John Anderson, K. C. M. G., governor of the Straits Settlements, Sir Frank Swettenham, K. C. M. G., his predecessor in office, and a number of other persons of prominence in public life. Frequent references were made to rubber in the after dinner speeches, including one by Mr. E. V. Carey, widely known as a rubber estates manager. Several other rubber planters were present.

A CORRESPONDENT of *The Malay Mail* notes the arrival at Penang of Mr. John I. Philips, from Australia, with a commission to buy rubber for the Dunlop Rubber Co.'s factory at Melbourne. The writer hears that that factory uses three tons of rubber per week in the manufacture of boot heels alone.

NEWS OF THE AMERICAN RUBBER TRADE.

UNITED STATES RUBBER CO. DIVIDENDS.

THE directors of the United States Rubber Co., at a regular meeting on July 5, at the general offices in New York, declared the usual quarterly dividend of 2 per cent. on all the shares outstanding of the First preferred stock of the company, and a dividend of 1½ per cent. on the Second preferred stock, for the quarter beginning April 1, 1906, from the net earnings of the company, payable July 31 to stockholders of record July 14. A statement issued from the offices of the company says: "The net earnings for the three months (June partially estimated) are approximately \$972,000, not including earnings of the Rubber Goods Manufacturing Co., excepting dividends amounting to \$116,277.53 received upon preferred stock of said company in this company's treasury. The net earnings for the corresponding period last year \$960,751.

SEWARD RUBBER CO.'S FACTORY.

THE illustration on this page gives a good view of the main building of the Seward Rubber Co., recently organized to make mechanical rubber goods. The factory is located at Berlin Junction (near Hartford), Connecticut. It is of



brick, 160 x 70 feet, and the principal portion three stories. The boiler house and machine shop are separate and not shown in the picture. The company own plenty of land for future extension, and own also a railway siding.

THE DERBY RUBBER CO.

THE Shelton mills of this company are now in full operation, with a daily capacity of about 15 tons of reclaimed rubber. They are manufacturing the standard and special grades of reclaimed stock. Their Factory No. 2 has recently been equipped with the most modern machinery, and it is said by some of the trade that they are making the highest grades of reclaimed stock ever produced. Mr. W. F. Askam, who has for the past 25 years devoted his time to the manufacture of reclaimed rubber, is now the vice president and general manager of The Derby Rubber Co.

RUBBER RECLAIMING LITIGATION SETTLED.

TO THE EDITOR OF THE INDIA RUBBER WORLD: We have the pleasure to advise you that the recent litigation concerning rubber reclaiming patents brought against this company by Mr. Mitchell, of the Philadelphia Rubber Works, and Mr.

Loewenthal, of the U. S. Rubber Reclaiming Works, and which the trade journals, some months ago, called attention to, has now been definitely settled and withdrawn; the following order of court having been entered on June 14, 1906:

Before Holland, Judge. Upon the annexed consent of the solicitors for the respective parties, it is hereby ordered that this cause be, and the same hereby is discontinued, without cost to either party as against the other.

Will you kindly give this a properly prominent notice in an early number and very much oblige,

Yours very truly, THE S. & L. RUBBER CO.,
JAMES M. STOFFSBURY, President.

Chester, Pennsylvania, July 5, 1906.

[THE nature of this suit was reported in THE INDIA RUBBER WORLD, January 1, 1906—page 131.]

BOSTON RUBBER SHOE CO.

THE report of condition filed by the Boston Rubber Shoe Co., as of March 31, 1906, with the Massachusetts authorities, in compliance with the state law, embodies the following details:

ASSETS.		March 31, 1906	March 31, 1905.
Real Estate.....	\$	768,525	\$ 768,525
Machinery.....		375,515	375,515
Merchandise and stock in process....		3,540,003	4,454,340
Cash and debts receivable.....		2,041,384	2,020,197
Special contract U. S. Rubber Co....		4,800,000	4,800,000
Miscellaneous.....		16,620	16,620
Total.....	\$	11,542,047	\$12,435,197
LIABILITIES			
Capital stock.....	\$	5,000,000	\$ 5,000,000
Accounts payable.....		428,114	948,464
Funded debt.....		4,800,000	4,800,000
Floating debt.....			400,000
Accrued interest on bonds not due.....		40,000	40,000
Profit and loss.....		1,273,933	1,246,733
Total.....	\$	11,542,047	\$12,435,197

* To pay principal and interest of Debenture Bonds of Boston Rubber Shoe Company as they may mature or be drawn.

TRADE NEWS NOTES.

THE Firestone Tire and Rubber Co. (Akron, Ohio), it is reported, have leased for a term of years, for use for their Chicago branch, a two story building 25 x 171 feet.

—The Canadian Rubber Co. of Montreal, Limited, have just concluded a deal whereby they obtain exclusive control of Rubber advertising in all street cars owned and operated in the principal towns and cities in Canada. They are at present running their attractive cards in street cars, advertising their "Keystone" side wire tire, and calling attention to their facilities for manufacturing tires for any class of work.

—The Falcon Rubber Co. (New Haven, Connecticut) is to be liquidated. This company was incorporated February 29, 1904, with \$60,000 capital, to manufacture rubber sundries, but has not been operating for several months. Sherman F. Foote has been appointed permanent receiver in the suit of Fred A. Warner, owner of 50 shares, and others.

—The strike of the Boston Insulator and Abestos Workers' Union for an advance of 50 cents per day, inaugurated on May 1, has been declared off. The settlement was regarded as a compromise.

=Notices have been posted in the two factories of the Boston Rubber Shoe Co. that the summer shutdown will begin on August 3 and continue for two weeks.

=Phoenix Rubber Co. is the name of a new concern in San Francisco—No. 103 Beale street—handling mechanical rubber goods. They are also Pacific Coast distributors for the Chicago Belting Co.'s leather belts. J. D. Ralph is manager.

=Additions made recently to the plant of A. Adamson (Akron, Ohio) have doubled its capacity for turning out molds and cores for automobile tires.

=The Bishop Gutta-Percha Co. have filed plans in the New York building department for an additional factory, five stories, at Nos. 428-430 East Twenty-fifth street, to cost \$57,000.

=The Marion Rubber Co., jobbers of rubber foot wear with stores at Columbus, Ohio, and Marion, Indiana, is composed of G. P. and A. P. Butterworth and H. W. Lushey, who have formed a separate corporation for manufacturing leather shoes at Marion.

=The California Waterproof Manufacturing Co., whose plant, established in San Francisco in November last, was burned on April 18, have become reestablished at Berkeley, California.

=John E. Hundley, of Colorado Springs, Colorado, has brought suit to recover \$2500, paid several months ago for stock in the American Crude Rubber Co., on the condition he alleges, that the seller would take back the stock at the same price whenever desired to do so by the plaintiff. Hundley now asserts that he cannot sell the stock at any price. The company is one of those formed to exploit the so called Colorado rubber weed.

=One of the most notable new buildings in Boston is the Christian Science temple, erected at a cost of \$2,000,000. The covering of the auditorium and other floors is "Interlocking" rubber tiling, supplied by the New York Belting and Packing Co., Limited, and laid by the Stoughton Rubber Co. It was designed in special colors, selected for the purpose of harmonizing and blending with the general scheme of decoration of the interior.

=Mr. George W. Speaight, (New York), manufacturer of chemicals for the rubber trade, sailed on the steamer *Amerika*, on July 5, for an extended tour of Great Britain and the Continent.

=The many friends of Mr. A. M. Stickney, president of the Wellman Sole Cutting Machine Co. (Medford, Massachusetts), will be pleased to learn that he is recovering from his recent illness. Recently he has been staying at his cottage in Epping, New Hampshire, where he is gaining strength through change of air.

=Mr. Lester Leland, second vice president of the United States Rubber Co., accompanied by Mrs. Leland, arrived from Europe at his home in Boston on June 4.

=George R. Bidwell, who will be remembered for his prominent connection with the pneumatic tire trade in the palmy days of cycling, and who later was collector of the port of New York, has become general manager of the Autocar Co., whose factory is at Ardmore, Pennsylvania.

=Suit has been filed by the Buffalo Specialty Manufacturing Co. against the Alling Rubber Co. (Hartford, Connecticut), alleging infringement of a patent on a tire repairing compound called "Neverleak."

=A complete rubber drying equipment consisting of fan and distributing system, is to be installed for the Raymond Rubber Co. (Titusville, New Jersey), by B. F. Sturtevant Co., of Boston. This is to replace an outfit destroyed by fire in April last and marks the completion of all that part of the company's plant that was burned.

=The two factories of the Woonsocket Rubber Co. will be closed between August 10 and August 23, for the annual summer vacation.

=The portrait herewith is that of Mr. Fleetwood H. Ward, who was recently elected secretary and treasurer of the Canadian Rubber Co. of Montreal, Limited.

=The International Rubber Co., a new corporation, with offices at No. 895 Boylston street, Boston, will handle exclusively the tire products of the International A. and V. Tire Co. (Milltown, New Jersey). Mr. L. H. Fiske is general manager.

=Legal proceedings have been instituted at Akron, Ohio, to have set aside the sale of the Lilly Rubber Manufacturing Co. to the Phoenix Rubber Co., on the ground that the same was without due consideration of the rights of certain creditors of the first named concern.

=Letters patent have been granted by the secretary of state of Canada, dated June 29, 1906, for the incorporation of Ames-Holden, Limited, with \$2,500,000 capital, to manufacture leather and rubber footwear of every description. Incorporators: James Redmond, Herbert B. Ames, Arthur R. Holden, Rufus C. Holden, and William A. Matley. The chief place of business is to be in Montreal, Quebec.

=Morgan & Wright (Chicago,) rubber manufacturers, appeared before the municipal board of review on July 16 and asked for an increase of \$136,000 in the assessment on their property—from \$200,000 to \$336,506. It is reported that their request was granted without delay.

=The Aiton Machine Co. (New York) are putting on the market a high speed 12 spool strander, that is designed to operate at 1000 revolutions per minute, and is intended for use in the manufacture of hollow clothes line, and other light stranding work, where high speed and large output are demanded. The first machine is going to the Malin Co., of Cleveland, Ohio, who it is understood have placed orders with the Aiton Machine Co. for several more of these machines.

=The Ohio Rubber Culture Co. (Canton, Ohio) have recently completed this year's rubber planting and now have over 1,000,000 rubber trees growing on their plantation "Capoacan;" 800,000 of these trees are of last year's planting and are now over six feet high. The Minatitlan Contracting Co., who have charge of the development work for this company, have rendered a most satisfactory report; in it they speak of the excellent condition of the property, as well as the rapid growth and healthy condition of the trees.



MR. F. H. WARD.

The Prescott Brothers Rubber Store, No. 159 Summer street, Boston, have announced the opening of a new department, to be devoted to all kinds of waterproof clothing—cravenette raincoats, automobile clothing, oil yachting clothing and rubber clothing. They say: "Our aim is to have a 'rubber store' worthy of the name, stocked with the best goods the rubber world produces."

Tire selling agencies throughout the countries, representing the companies which for three years past have maintained an agreement as to output and prices, have been receiving notices of the termination of such agreement, as forecasted in the July, issue of THE INDIA RUBBER WORLD.

The Hartford Rubber Works Co. annual meeting was held at Hartford on July 17. The directors chosen then elected officers on July 19. V. B. Lang, of Detroit, succeeds Ernest Hopkinson as one of the vice presidents, of the company.

PROFITS OF THE AMERICAN CHICLE CO.

At the annual meeting in Jersey City, New Jersey, on July 17, of the stockholders of the American Chicle Co., a statement was submitted showing that the profits for the fiscal year ended June 30, 1906, were \$1,404,000, an increase of \$200,000 over last year. After paying a dividend of 6 per cent. on the preferred stock, amounting to \$180,000, and 13 per cent., equal to \$780,000, on the common stock—1 per cent. extra was paid July 17 in addition to the regular monthly dividend of 1 per cent.—the surplus for the year was \$440,000. During the fiscal year the company's large plant at Toronto was completed. Their San Francisco factory having been destroyed by the fire, a new one to take its place is being erected at Portland, Oregon. They own factories also at Newark, Cleveland, New Orleans, Louisville, Chicago, and London (England). A considerable extension of the European business was reported. The company's holdings of Chicle producing lands in Mexico have increased to 2,600,000 acres. In connection with their business the company have developed some important colonization in Yucatan and Campeche. The board elected for the new year consists of Thomas Adams, E. E. Beeman, W. J. White, R. F. Tully, G. A. Stanton, George H. Worthington, J. P. Primley, T. L. Jefferson, John D. Adams, Stephen T. Britten, Henry Rowley, and J. C. Parrish.

"RUBBER-ITE" STITCHED CANVAS BELT.

A NEW article of machinery belting is called the Rubber-It belt. It is described as a stitched canvas belt, treated with Rubber-It, a fluid made from mineral rubber. The latter product being insoluble in acids or alkalies, its use in liquid form was unknown until Mr. F. B. McIlroy discovered the present method of treating it, and the new belting is the result. It is waterproof, will run through oils and alkalies, has notable adhesive qualities, and little stretch. Made by The McIlroy Belting and Hose Co., Nos. 19-21 South Canal street, Chicago.

ELECTRIC RUBBER MANUFACTURING CO.

At the first annual meeting of the stockholders of this company held on July 11, at Rutherford, New Jersey, the following officers and directors were elected: James H. George, president; S. F. Robinson, vice president; William J. Conkling, treasurer; Charles H. George, secretary; Charles Reynolds, S. D. Sherwood, and Henry A. Middleton, additional directors. The company paid the second semi-annual dividend of 3½ per cent. on July 1.

A MERGER IN WHICH THERE IS NO WATER.

THE Canadian Consolidated Rubber Co., Limited, with headquarters at Montreal and an authorized capital of \$5,000,000, were granted letters patent under the Canadian law, on July 7, to carry on the business of manufacturing and dealing in rubber goods. THE INDIA RUBBER WORLD is advised: "The Canadian Consolidated Rubber Co., Limited, has been organized as a holding company, to control both the Canadian Rubber Co. of Montreal, Limited, and the Granby Rubber Co., Limited, of Granby. The two last companies will continue doing business separately, as before, except that they will more or less be under one management, and will be controlled absolutely by the one interest, viz: The Canadian Consolidated Rubber Co. The interests identified with the Canadian Rubber Co., of Montreal, Limited, hold the controlling interest in the new corporation."

NEW YORK STOCK EXCHANGE TRANSACTIONS.

UNITED STATES RUBBER CO.:

DATES	Common.			Preferred.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending June 23	2,820	49 ⁷ / ₈	48 ⁷ / ₈	100	108 ¹ / ₂	108
Week ending June 30	16,010	49 ¹ / ₄	44 ¹ / ₂	700	108	107
Week ending July 7	6,500	48 ¹ / ₄	43 ¹ / ₂	900	108 ³ / ₈	106 ¹ / ₂
Week ending July 14	9,800	45	38	1,480	108 ¹ / ₂	104 ³ / ₄
Week ending July 21	6,450	42	39 ³ / ₈	1,000	107 ¹ / ₂	105 ¹ / ₂

SECOND PREFERRED.

WEEK ending—	June 23.	June 30.	July 7.	July 14.	July 21.
Sales.....	100	1300	500	610	25
High.....	78 ¹ / ₄	79	79	79 ³ / ₄	78
Low.....	78 ¹ / ₄	77 ¹ / ₈	77 ¹ / ₄	77 ¹ / ₄	78

NEW INCORPORATIONS.

THE B. & R. Rubber Co. July 11, 1906, under Massachusetts laws, to manufacture rubber goods; authorized capital, \$360,000—\$120,000 in 7 per cent. cumulative preferred shares and \$240,000 common. Thomas G. Richards, president; Charles C. Beebe, treasurer; George R. Hamant, Alvin E. Sortwell, and James A. Gass, additional directors. This company has acquired the plant of the North Brookfield Industrial Co., which is now being remodelled for use as a rubber factory. The plant purchased by the company is well adapted for their purpose, which is the manufacture of molded rubber specialties, insulating tape, fruit jar rings, carriage mats, etc. The company was organized by Messrs. Richards and Beebe and is to be managed by them. It is understood that the stock which they offered for sale was speedily oversubscribed.

=The Brazilian Rubber Plantation and Development Co., July 6, 1906, under New York laws; capital, \$100,000. Incorporators: Adolph Hirsch, Seymour E. Heymann, and Henry A. Bloomberg, New York city; G. Henry Hirsch, Bahia, Brazil. The Mr. Hirsch first named, and who is president of the new corporation, is the head of Adolph Hirsch & Co., commission merchants. "The object of the company is to plant maniocaba rubber on the grounds belonging to the same in Brazil, with the object of producing maniocaba superior to that which has hitherto appeared on the market."

=The Wolverine Rubber Manufacturing Co., June 26, 1906, under Michigan laws; capital authorized, \$12,500. Incorporators: George B. Goble, Detroit, Michigan; David Craig, Wyandotte, Mich.; Oliver H. Joy, Akron, Ohio.

PERSONAL MENTION.

MR. FREDERICK C. HOOD, treasurer of the Hood Rubber Co., and a member of the Harvard class of '86, was chairman of the committee on arrangements for the reunion of his class in Boston recently.

=The friends of Mr. R. P. Towner, junior member of Towner & Co., rubber goods jobbers, of Memphis, Tennessee, have received cards reading: "Richard Paul Towner and Edna B. Holbig announce their marriage in New York city, June 17, 1906. At home after August 1, Memphis, Tennessee."

=The many friends and business associates of Mr. Charles H. Norton, advertising manager for George Borgfeldt & Co. (New York) are congratulating him on the announcement of his engagement to Miss Adele Eddy Black of New York city.

THE TEXTILE GOODS MARKET.

THERE is very little of interest that can be said about the cotton situation at this writing as there has been no appreciable change since our last report. The persistent rains have had a more or less adverse effect on the crop, which has also been retarded by labor conditions, which in certain sections of the South are very unsatisfactory. Certain rumors from Texas indicate a relatively early movement of the crop of that state. This theory, however, is not in accord with the views of the president of a large Southern mill and one of the best authorities on the cotton situation, who in writing prominent New York factors says: "In our mind cotton is a purchase now for 4 months. Crop will not be large and will be sold slowly."

The rubber trade demand is as active as ever and a number of manufacturers of mechanical goods have exceeded the proportion due them on contracts. The speculative market is active though in a rather chaotic condition. The general opinion, at least that which prevails in reasonably conservative circles, indicates a rather late and slow moving crop, though on the other hand there is a considerable element who predict a relatively early movement and quick sale.

RUBBER NOTES FROM TRENTON.

BY A RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The plant of the Perfection Rubber Co., on Paul avenue, Trenton, narrowly escaped destruction by fire on July 14. At 6.45 P. M. an alarm was turned in, which brought the fire department on a run—and for a time things looked very serious. The building is a two story frame structure with boiler room adjoining. The fire started in the boiler room and the roof of this building was almost destroyed. The firemen got quickly to work and while two companies devoted themselves entirely to the blazing building the energies of the others were directed toward saving the other buildings, in which efforts they were successful. The engineer of the plant says he cannot account for the fire. The loss is placed at \$1200. The officers of the Perfection Rubber Co. are John W. Cook, president; J. M. Lawshe, secretary and treasurer.

Permits have been granted to the Crescent Belting and Packing Co. for the erection of two new buildings each to cost \$5000. The buildings will be of brick, one of three stories and one of one story.

General C. Edward Murray, of the Empire Rubber Manufacturing Co., during two weeks in July left the cares of rubber manufacturing, and devoted himself to his duties as Quartermaster General at Camp Edward C. Stokes, at Sea Girt.

Work has been resumed at the Lambertville Rubber Co. after an extended shut down, during which extensive repairs were made and a new set of calenders put in.

The members of the fire brigade of the United and Globe Rubber Manufacturing Co.'s, left the factory on Saturday, July 21, for a day's outing up the Delaware river. A camp site was selected near Seudder's Falls, where an enjoyable day was spent.

A baseball team of employes of the United and Globe Rubber Manufacturing Co.'s on July 14, played an interesting game with a team from the Union Boiler Co., at Pennington, N. J. The latter won by a score of 10 to 7.

OBITUARY.

IN the death of JOSEPH STOKES, the nineteen year old son of Joseph O. Stokes, of the Trenton Rubber Manufacturing Co., the Home Rubber Co., and the Joseph Stokes Rubber Co., the trade suffers a distinct prospective loss. The young man showed wonderful promise both in character and sound business judgment, and was fitting himself to become the head of the rubber company that bears his grandfather's name. That so bright a future cannot fulfill its promise is exceedingly sad, and his parents, relatives, and friends are assured of the deepest sympathy of the trade.

* * *

CHARLES C. MILLER, for many years connected prominently with the Westinghouse Air Brake Co., at Pittsburgh, and later secretary of the Peerless Rubber Manufacturing Co. (New York), died on July 17 at his home in Bath avenue, Long Branch, N. J., of progressive paralysis, in his sixty-fifth year. He was born in Pittsburgh in 1851. Becoming interested in the rubber business he became a resident of New York. When the company with which he was connected was acquired by the Rubber Goods Manufacturing Co. he retired from business, and about two years ago he moved to Long Branch. He is survived by one brother and five sisters. The brother is Orlando Miller, purchasing agent for the Westinghouse concern at Pittsburgh. Funeral services were held at Long Branch on July 20.

FERDINAND G. BORGES, one of the principals behind the various "Ubero" rubber plantation companies, whose conviction on charges of conspiracy and larceny in connection with their promotion, in the criminal section of the superior court at Boston was reported in the last INDIA RUBBER WORLD, was called before Judge White for sentence on July 5. The prisoner made a lengthy statement in court, throwing the blame for any wrongdoing upon the organizer of the companies—Ex-Congressman William D. Owen, who escaped prosecution by leaving the country—and exonerating the other officers of the company. Borges was sentenced to serve for from 12 to 15 years in the Massachusetts state prison, and began his sentence on July 6.

The reorganization of the Ubero Company as the Tolosa Rubber Co. is reported in another column.

THE RUBBER TRADE IN AKRON.

BY A RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: For the first time in many years the Akron rubber factories are working full force during the summer months in order to turn out the large number of orders that are on hand and are coming in. Especially is this true in the tire branch. All of the tire manufacturers report an active trade and during the past month more than 20 carloads of tires have been shipped out of Akron to various points. The rubber specialty manufacturers and druggists' sundries manufacturers also report a good trade. The chief trouble at all the factories is the lack of the requisite amount of experienced help.

A genuine building boom that is now on in Akron is indicative of the remarkable growth of the local rubber industries. The majority of the plants are constructing additions to care for the increased trade which has been manifest this year. The Diamond Rubber Co. have let a contract for a large building to be erected on the property recently acquired by it on Jackson street adjoining their present plant. The building will be one story, but later as the demand for room increases additional stories will be added. The building will be 288×150 feet.

The B. F. Goodrich Co. are erecting a five story building on South Main street, between two of their other buildings. This building when completed will be used exclusively for the company's growing tire business. Steel girders and wire netting are being used throughout. This frame work will be encased by solid walls of concrete. The tire manufacture requires extra heavy machinery and to support the new equipment an extra strong building is needed. The engineering and construction corps of the company spent many weeks in examining factory buildings all over the country and at last decided upon this method of construction. When completed the building will be the most substantial in the city, if not in the state, and as nearly fireproof as possible.

Property owners have remonstrated against the permanent vacation of Fourth street for the benefit of the Buckeye Rubber Co., who desire a portion of the street for the purpose of branching out. The company made application to the council for the use of a portion of the street and asked that that portion required be vacated. The property owners are willing that the council grant the company the right to use the street, but not vacate it. The Buckeye Rubber Co. are contemplating several changes in their plant.

Large shipments have been made during the month by the Biggs Boiler Co., of Akron, of vulcanizers and devulcanizers which the company manufacture. The shipments have been made mostly to Eastern mills.

A partnership under the name of Arenson & Squires has been formed in Akron to deal in scrap rubber. The partners are Edward Arenson and M. Squires. They will open a warehouse at No. 80 East Exchange street.

The officers of the Panama Crude Rubber Co., which was organized in Akron several months ago, are actively engaged in arranging plans for the operation of the company this fall. The company are securing a large acreage of land in Central America where they expect to cultivate rubber trees. The plans are still premature and the officers of the company are not prepared to divulge their plans at this time. The company have a paid up capital stock of \$300,000.

The will of the late Richard P. Marvin, secretary of The B. F. Goodrich Co., has been filed for probate. It shows that the estate was approximately \$150,000. The distribution is to be made as follows: Grace T. Marvin, the widow, \$100,000 and the homestead and about 6 acres of land in Akron; Mary M. Goodrich, a sister, \$5000; Sarah Jane Hall, a sister, \$5000; Robert N. Marvin, a brother, \$5000; Charles C. Goodrich, a nephew, \$5000; Isabella Goodrich Breckinridge, a niece, \$5000; Kate P. Marvin, \$3000; Isabella Marvin Sheldon, Maud Marvin Patterson, Joseph Cabell Breckinridge, Marvin Cook Wilson, Julia Sheldon, and Alfred Lohman each \$1000; Anna B. Perkins, \$2000 and Carl Lohman \$3000. The residue of the estate is to go to the widow, who with Charles C. Goodrich are named in the will as executors.

A. F. Libis, one of the department managers of The B. F. Goodrich Co., has returned from San Francisco where he has been in the interest of the company. Mr. Libis states that the Goodrich company will soon be located in San Francisco again and that at present the company is enjoying as brisk a trade as though the city had never been devastated.

While Akron furnishes a large per cent. of the automobile tires used throughout the country, this city is to have its first automobile manufactory. An organization of the Williams Motor Car Co. was effected July 17 by the election of the following officers: President, J. F. Townsend; vice president and general manager, H. A. Williams; treasurer, Henry Robinson; secretary, L. D. Slusser. The company has been incorporated under the laws of South Dakota with a capital stock of \$5,000,000 and will manufacture automobiles under the Williams patent. G. Frank Fries, of Buffalo, New York, an expert in the automobile trade has been engaged as superintendent of manufacturing. The Williams machine will be different from all other automobiles in several features. They are to have steel rims with solid rubber tires, making an artillery wheel; also air brakes. Two leading characteristics are the three point suspension principle and the centrally driven power.

Mr. William B. Miller, secretary of the Diamond Rubber Co., is in San Francisco, where he will remain for several weeks looking after the company's interests. Mr. Miller while in the West will adjust the losses of the company by reason of the great fire. He will also procure a new site for the location of the branch plant that the company operate in the West.

A scrap rubber warehouse is to be established in Akron by L. Albert & Son, of Trenton, New Jersey. This firm has a special agent in this city and the business has grown to such extent that a warehouse is quite essential.

Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers for carload lots in cents per pound—are slightly higher:

Old Rubber Boots and Shoes	Domestic.....	8 ⁵ / ₈	@ 8 ³ / ₄
Do	Foreign.....	7 ³ / ₄	@ 7 ⁷ / ₈
Pneumatic Bicycle Tires.....		7 ¹ / ₈	@ 7 ¹ / ₄
Solid Rubber Wagon and Carriage Tires.....		8 ¹ / ₂	@ 8 ⁷ / ₈
White Trimmed Rubber.....		10 ¹ / ₂	@ 11
Heavy Black Rubber.....		5 ¹ / ₄	@ 5 ¹ / ₂
Air Brake Hose.....		3 ³ / ₄	@ 3 ⁷ / ₈
Fire and Large Hose.....		2 ⁷ / ₈	@ 3
Garden Hose.....		2 ¹ / ₈	@ 2 ¹ / ₄
Matting.....		1 ¹ / ₄	@ 1 ¹ / ₂

REVIEW OF THE CRUDE RUBBER MARKET.

THE condition of the New York market during the month has been one of quiet. There have been days when no trading was reported, and when rubber has changed hands it has been, as a rule, in small parcels, though the aggregate of such sales has been considerable. Following the holiday, July 1, and the midsummer stocktaking period in many factories, the hope was entertained in the crude rubber trade that buyers would begin to show more interest, and that the resumption of buying on a more liberal scale would stimulate prices. Such did not prove the case, however, until within the closing days of the month, when prices indicated a firmer tendency in the market, and recovery from a decline which occurred about the middle of the month. Similar conditions have existed in the European markets. The late improvement on this side did not develop until after the receipt of reports of a better market tone in London and Liverpool.

In addition to the arrivals from Pará noted in detail on another page is to be mentioned the *Cametense*, at New York, on July 24, with 583,400 pounds of rubber and 128,600 pounds of Caucho. The *Benedict* is due on August 3, with 200 tons Rubber.

Manãos exports (including Caucho) for the first six months of 1906 were 10,347,406 kilos; for the crop year ended June 30 exports were 17,699,178 kilos. Receipts at Manãos for several past crop years has been:

	1902-03.	1903-04.	1904-05.	1905-06.
For Manãos.....tons	18,150	15,133	16,810	18,200
For Pará.....	939	1,791	5,267	5,440
Total.....	19,089	16,924	22,076	23,640

Following is a statement of prices of Pará grades, one year ago, one month ago, and on July 27—this date:

PARÁ	August 1, '05.	July 1, '06.	July 27, '06.
Islands, fine, new.....	125@126	118@119	118@119
Islands, fine, old.....	none here	none here	none here
Upriver, fine, new.....	127@128	123@124	123@124
Upriver, fine, old.....	129@130	124@125	124@125
Islands, coarse, new.....	67@68	64½@65	64½@65
Islands, coarse, old.....	none here	none here	none here
Upriver, coarse, new.....	90@91	90@91	90@91
Upriver, coarse, old.....	none here	none here	none here
Caucho (Peruvian) sheet....	70@71	72@73	72@73
Caucho (Peruvian) ball.....	80@81	85@86	86@87
Ceylon (Plantation) fine sheet.....	148@149	148@149	148@149

AFRICAN.	CENTRALS
Sierra Leone, 1st qual. 102 @ 103	Esmeralda, sausage. . . 86@ 87
Massai, red. 102 @ 103	Guayaquil, strip. . . 71@ 72
Benguella. 76 @ 77	Nicaragua, scrap . . . 83@ 84
Cameroon ball. 75 @ 76	Panama, slab. 61@ 62
Accra flake. 21½ @ 22	Mexican, scrap. 84@ 85
Lopori ball, prime. . 114 @ 115	Mexican, slab. 59@ 60
Lopori strip, prime. . 103 @ 104	Mangabeira, sheet. . . 67@ 68
Madagascar, pinky. . 93 @ 94	Guayule. 39@ 45
Ikelemba. 115 @ 116	
Soudan niggers. 95 @ 96	EAST INDIAN.
Late Pará cables quote:	Assam. 92@ 93
	Borneo. 41½ @ 47

Per Kilo	Per Kilo.
Islands, fine. 5\$350	Upriver, fine. . . 6\$300 }
Islands, coarse. 2\$450	Upriver, coarse. 4\$200 }
Exchange, 167½d.	latest advice.

Last Manãos advices:

Upriver, fine. 6\$250	Upriver, coarse. 3\$750
Exchange, 167½d.	

NEW YORK RUBBER PRICES FOR JUNE (NEW RUBBER)

	1905.	1906.	1907.
Upriver, fine.....	123 60 125	130 60 135	141 60 144
Upriver, coarse.....	90 60 92	94 60 97	87 60 89
Islands, fine.....	119 60 122	128 60 133	138 60 141
Islands, coarse.....	65 60 66	72 60 76	84 60 88
Cametá.....	70 60 72	74 60 80	84 60 88

Statistics of Para Rubber (Excluding Caucho).

NEW YORK.

	Fine and Medium.	Coarse.	Total 1906.	Total 1905.	Total 1904.
Stocks, May 31.....tons	250	37	287	578	327
Arrivals, June.....	338	200	538	490	252
Aggregating.....	588	237	825	1068	579
Deliveries, June.....	447	217	664	474	442
Stocks, June 30.....	171	20	191	594	137

PARÁ.

	1906.	1905.	1904.	1906.	1905.	1904.
Stocks, May 31.....tons	90	365	195	1060	370	440
Arrivals, June.....	1485	985	1035	345	760	720
Aggregating.....	1575	1350	1230	1405	1130	1160
Deliveries, June.....	1545	1190	1055	500	945	575
Stocks, June 30.....	30	160	175	905	485	585

ENGLAND.

	1906.	1905.	1904.
World's visible supply, June 30.....tons	2150	1790	1506
Pará receipts, July 1 to June 30.....	29,069	27,311	25,925
Pará Receipts of Caucho, same dates.....	5620	5474	4669
Afloat from Pará to United States, June 30..	659	96	98
Afloat from Pará to Europe, June 30.....	365	455	511

The Para Crop Year.

THE total arrivals at Pará (including Caucho) for the year ended June 30, in the absence of official figures at the date of this arrival may be stated at 34,500 tons.

Total arrivals, 1904-05.....	33,060	"
Total arrivals, 1903-04.....	30,550	"
Total arrivals, 1902-03.....	29,850	"
Total arrivals, 1901-02.....	30,000	"

ANALYSIS OF THE NEW RUBBER CROP FIGURES BY AN AMERICAN IMPORTING HOUSE.

	Per Cent
Increase of rubber crop.....	5.24
Increase of Caucho crop.....	2.66
Total deliveries in the world of Pará rubber increased.....	4.88
American deliveries increased.....	12.62
English deliveries increased.....	7.52
Havre and Continental deliveries increased.....	55.77

World's stock, July 1, 1906.....	2150 tons.
World's stock, July 1, 1905.....	1790 "
European shipments Pará rubber to America.....	662 "
Same for preceding year.....	910 "

Receipts at Pará, 1905-06:

Rubber.....	29,069 tons
Caucho.....	5,431 "

Total..... 34,685 "

American deliveries.....	12,778 tons.
English deliveries.....	8,888 "
Havre and Continental deliveries and shrinkage.....	7,039 "

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: At the sale of June 26, the transaction comprised the following quantities:

	Exposed.	Sold.
Congo sorts	312	283
Other sorts	103	89
Total	415	372

Buyers being reluctant, only part of the exposed quantity could be disposed of. Prices were weak, especially for inferior grades. The average decline comes out at 35 to 40 centimes, or about 3½ to 4 per cent. below valuations: *i. e.*, on the May sale.

The next large sale will be held on July 27, when 443 tons will be exposed; the usual Congo sorts—Uelé Aruwimi, Upper Congo ball, Equateur, Maringa, Kasai, and Djuma—will be represented with large lots. Sales since 1 June till end of June at 400 tons. Stock at 620 tons, besides 296 tons arrived by steamer *Bruxellesville* from the Congo.

C. SCHMID & CO., SUCCESSORS.

Antwerp, July 11, 1906.

THE lot of 5½ tons of Guayule rubber offered at the Antwerp auction on June 26 failed to meet with a sale. The estimate of value, according to the official catalogue, was 7.25 francs per kilogram = 63½ cents per pound], and the rubber was "bought in" by the owners at 6.50 francs. Its sale was reported subsequently on July 6—at 4.25 francs [= 37¼ cents per pound].

ANTWERP RUBBER STATISTICS FOR MAY.

DETAILS.	1906.	1905.	1904.	1903.	1902.
Stocks, Apr. 30, 1906	880,458	635,875	441,621	488,799	500,604
Arrivals in May.....	950,759	287,333	737,526	352,833	537,530
Congo sorts.....	836,871	244,781	725,096	322,775	479,477
Other sorts.....	113,888	72,552	52,430	30,108	47,644
Aggregating.....	1,537,217	923,208	1,179,147	841,632	1,038,200
Sales in May.....	811,966	576,104	439,934	499,040	573,525
Stocks, May 31.....	745,251	347,194	742,215	342,592	464,675
Arrivals since Jan. 1.....	2,728,448	2,220,288	2,554,420	2,104,701	2,340,859
Congo sorts.....	2,410,574	1,957,594	2,178,112	1,888,206	2,188,285
Other sorts.....	317,874	262,694	376,308	216,495	152,574
Sales since Jan. 1.....	1,738,384	1,414,544	1,123,111	1,242,017	1,296,893

ANTWERP RUBBER ARRIVALS.

JUNE 19.—By the *Leopoldville*, from the Congo:

Bunge & Co., (Société Générale Africaine) kilos	73,000
Do	8,000
Do	(Comité Spécial Katanga)
Do	9,000
Do	(Chemins de fer Grand Lacs)
Do	5,000
Comptoir Commercial Congolais	12,000
L. & W. Van de Velde.....(Cie. du Kasai)	99,000
Do	4,000
Cie. Commerciale des Colonies (Col. Kadei Sangha)	6,000
Do	(La Haut Sangha)
Do	7,000
Charles Dethier.....(Société "La M'Poko")	3,500
Société Coloniale Anversoise.....(Cie. de Lomani)	19,000
Do	(Sud Kamerun)
Do	8,000
Do	1,500

JULY 10. By the *Bruxellesville*, from the Congo:

Bunge & Co., (Société Générale Africaine) kilos	118,500
Do	49,000
Do	(Société A B I R)
Do	26,900
Do	(Chemins de fer Grand Lacs)
Do	8,000
Do	Comité Spécial Katanga
Do	1,000
Do	(Cie. du Kasai)
Do	65,500
Société Coloniale Anversoise (Belge du Haut Congo)	11,400
Do	(Sud Kamerun)
Do	3,000
Do	2,000
L. & W. Van de Velde.....	4,000
M. S. Cols.....	(Alima)
Do	4,400
Comptoir Commercial Congolais	1,500

London.

EDWARD TILL & Co. report stocks [July 2]:

	1906.	1905.	1904.
Pará sorts.....tons	—	—	—
Plantation, Ceylon and Straits.....	55	—	—
Borneo.....	82	41	29
Assam and Rangoon.....	13	10	9
Penang.....	208	288	—
Other sorts.....	349	198	208
Total.....	707	537	306

LIVERPOOL {	Pará sorts.....	926	480	587
	Caucho.....	239	266	318
	Other sorts.....	493	467	709

Total, United Kingdom.....	2365	1750	1920
Total, June.....	2483	1644	1667
Total, May.....	2630	1515	1644
Total, April.....	2108	1232	1367
Total, March.....	1906	1264	1136
Total, February.....	1539	1298	1341

PRICES PAID DURING JUNE.

	1906.	1905.	1904.
Pará, fine, hard.....	5 13/4 @ 5 3	5 7 @ 5 8	4 8 @ 4 10 1/4
Do soft.....	5 0 1/4 @ 5 2	5 5 1/4 @ 5 8 1/2	4 7 1/2 @ 4 9 1/2
Negroheads, scrappy.....	3 10 @ 3 11	3 11 1/2 @ 4	3 7 1/2 @ 3 9
Do Cameta.....	3 0 1/2 @ 3 1	3 3 @ 3 4 1/4	2 8 1/4 @ 2 10 1/2
Bolivian.....	5 2 @ 5 3	5 7	4 8 1/4 @ 4 10 1/4
Caucho, ball.....	3 6 1/4 @ 3 7	3 5 1/4 @ 3 6	3 2 1/4 @ 3 4 1/2
Do slab.....	3 0 1/2 @ 3 1	3 @ 3 0 1/2	2 10 @ 2 11
Do tails.....	3 3 @ 3 4	No sales.	No sales.

JULY 6.—The market has been very quiet during a week past, and prices are lower. Hard fine has been sold at 5s. 1d. down to 5s. 0¼d. on the spot and at 5s. 2d. @ 5s. 1¼d. for forward delivery. Peruvian ball steady at 3s. 6¾d. spot; slab 3s. and scrappy 3s. 9d. per pound values. Transactions at to-day's auctions slight.

Plantation Rubber.—There were offered at auction about 2¼ tons Ceylon and about 7¼ tons Straits and Malay States, most of which was bought in. Some of the leading brands maintained their high standard, but others were irregular. Only fine rubber found buyers, at lower prices, in harmony with Brazilian Pará. Twenty-two packages changed hands at an average of 5s. 8d. [= \$1.37½] per pound.

Liverpool.

EDMUND SCHLÜTER & Co. report:

WORLD'S VISIBLE SUPPLY OF PARÁ, JUNE 30

Tons	1906.	1905.	1904.	1903.	1902.
.....	3385	2617	2028	3335	3776
Prices, hard fine 5/2	5 7	4/9 1/4	3 11 1/4	2 11 1/2	

LIVERPOOL STOCKS OF AFRICAN RUBBER, JUNE 30

1906.....	379	1903.....	371	1900.....	777
1905.....	368	1902.....	543	1899.....	530
1904.....	560	1901.....	768	1898.....	368

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds]

June 25.—By the steamer *Grangense*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
Poel & Arnold.....	66,000	14,800	17,100	45,700=	143,600
Poel & Arnold.....	.....	.....	23,200	.....	23,200
N. Y. Commercial Co.....	20,400	8,600	40,000	9,000=	78,000
N. Y. Commercial Co.....	.....	.....	.....	10,200	10,200
A. T. Morse & Co.....	32,500	5,000	2,800	9,900=	50,200
A. T. Morse & Co.....	7,000	1,100	2,500	.....	10,600
A. T. Morse & Co.....	8,200	1,900	10,100	.....	20,200
General Rubber Co.....	6,300	800	32,000	5,000	44,100
General Rubber Co.....	1,300	700	3,100	11,700	16,800
Neale & Co.....	10,900	1,100	5,700	.....	17,700
Edmund Reeks & Co.....	8,100	600	9,500	.....=	15,200
Hagemeyer & Brunn.....	2,800	.....	2,000	.....	4,800
Hagemeyer & Brunn.....	7,000	1,400	2,300	.....=	11,300
C. P. dos Santos.....	700	700	1,300	.....=	2,700
Total.....	171,800	36,700	148,600	91,500=	448,600

July 3.—By the steamer *Horatio*, from Manáos and Pará:

N. Y. Commercial Co.	59,800	14,400	61,800	46,800	182,500
General Rubber Co.	43,000	6,100	88,300	25,100	162,500
Poel & Arnold	56,700	17,300	58,100	4,300	139,400
A. T. Morse & Co.	49,100	7,700	15,500	24,700	97,000
C. P. dos Santos	53,800	9,000	8,000		70,800
Neale & Co.	7,800	1,400	14,300		23,500
Hagemeyer & Bruhn	15,000	1,200	7,100	200	23,500
Edmund Reeks & Co.	13,400	1,300	8,600		23,300
G. Amsinck & Co.	11,300		9,000		20,300

Total..... 309,900 58,400 270,700 101,100 749,100

July 10.—By the steamer *Guarense*, from Manáos and Pará:

General Rubber Co.	121,200	20,500	101,300	50,200	293,200
N. Y. Commercial Co.	121,400	14,300	45,800	13,900	195,400
A. T. Morse & Co.	117,800	20,400	27,400	14,800	180,400
Poel & Arnold	22,700	12,600	25,500	29,500	90,300
Edmund Reeks & Co.	18,200	4,600	8,400		31,200
Neale & Co.	1,000	700	8,900		14,500
Hagemeyer & Bruhn	6,000	500	2,700		9,800
C. P. dos Santos	5,200		1,400		6,600

Total..... 118,900 73,600 221,100 108,400 821,400

PARA RUBBER VIA EUROPE.

CENTRALS—Continued.

POUNDS.		JUNE 23.—By the <i>Ethiopia</i> =Liverpool:	
New York Commercial Co. (Fine)	5,000		
JUNE 25.—By the <i>Maya</i> =Bolívar:			
Thebaud Brothers (Fine)	23,000		
Thebaud Brothers (Coarse)	1,000		
American Trading Co. (Fine)	1,500		
American Trading Co. (Coarse)	2,000	30,500	
JUNE 27.—By the <i>Carmania</i> =Liverpool:			
New York Commercial Co. (Cauchol)	68,000		
New York Commercial Co. (Fine)	11,800		
Poel & Arnold (Coarse)	11,500	91,000	
JULY 3.—By the <i>Majestic</i> =Liverpool:			
A. T. Morse & Co. (Coarse)	15,000		
JULY 9.—By the <i>Pennsylvania</i> =Hamburg:			
George A. Alden & Co. (Fine)	8,000		
A. T. Morse & Co. (Cauchol)	2,000	28,000	
JULY 9.—By the <i>Umbria</i> =Liverpool:			
New York Commercial Co. (Fine)	11,000		
A. T. Morse & Co. (Coarse)	7,500	18,500	
JULY 10.—By the <i>Victorian</i> =Liverpool:			
Poel & Arnold (Cauchol)	15,000		
JULY 11.—By the <i>Caronia</i> =Liverpool:			
New York Commercial Co. (Fine)	31,000		
JULY 13.—By the <i>Advance</i> =Mollendo:			
Boston & Bolivia Co. (Fine)	5,000		
A. D. Hitch & Co. (Fine)	4,000		
A. D. Hitch & Co. (Coarse)	1,000	9,000	
JULY 16.—By the <i>Mayas</i> =Ciudad Bolívar:			
Thebaud Brothers (Fine)	4,000		
Thebaud Brothers (Coarse)	12,000		
American Trading Co. (Fine)	4,500	17,500	
JULY 17.—By the <i>Gough</i> =Liverpool:			
Poel & Arnold (Coarse)	30,000		

JUNE 28.—By the <i>La Plata</i> =Caribbean:			
Hirzel, Feltman & Co.	5,000		
G. Amsinck & Co.	1,500		
F. B. Strout	1,500		
J. A. Medina & Co.	700		
Kunhardt & Co.	800		
American Trading Co.	500		
JULY 2.—By the <i>Uglandia</i> =Mexico:			
H. Marquardt & Co.	11,000		
Fried k. Probst & Co.	600		
E. Steiger & Co.	1,000		
American Trading Co.	1,000		
Isaac Kubie & Co.	100	16,500	
JULY 2.—By the <i>Prinz</i> =Ethel=Colon:			
G. Amsinck & Co.	2,000		
Kunhardt & Co.	1,000		
Seanz & Co.	500		
American Trading Co.	700		
R. G. Barthold	500		
George A. Alden & Co.	600	5,400	
JULY 2.—By the <i>Manzanillo</i> =Tampico:			
European Account	3,000		
JULY 3.—By the <i>Finance</i> =Colon:			
G. Amsinck & Co.	4,100		
Dumarest Bros. & Co.	3,100		
Charles F. Griffin	1,000		
Mann & Emdon	1,000		
Pablo Calvet & Co.	1,100		
A. Santos & Co.	1,000		
W. R. Grace & Co.	1,000		
Wessels, Kulemkamp Co.	700		
D. A. De Lima & Co.	600		
Piza, Nephews & Co.	600		
Roldan Van Sickle	500	16,500	
JULY 3.—By the <i>El Lafo</i> =Galveston:			
Continental & Mexican Co.	1,000		
JULY 3.—By the <i>Leona</i> =Bahia:			
American Commercial Co.	34,000		
J. H. Rosshack & Bros.	27,000		
A. D. Hitch & Co.	16,000		
A. Hirsch & Co.	3,500	82,500	
JULY 5.—By the <i>Sagua</i> =Colombia:			
D. A. De Lima & Co.	1,200		
Roldan & Van Sickle	1,300		
Isaac Brandon & Bros.	500	3,000	
JULY 6.—By the <i>St. Laurent</i> =Havre:			
Henry A. Gould Co.	1,000		
JULY 7.—By the <i>Montevideo</i> =Fronteira:			
E. Steiger & Co.	5,500		
Harburger & Stack	5,000		
E. N. Tablals & Co.	2,500		
Graham, Hinkley & Co.	1,000	14,000	
JULY 7.—By the <i>Colon</i> =Colon:			
Hirzel, Feltman & Co.	11,100		
E. B. Strout	1,900	13,000	
JULY 9.—By the <i>Protea</i> =New Orleans:			
A. N. Rotholz	3,000		
Manhattan Rubber Mfg. Co.	2,000		
A. T. Morse & Co.	2,500		
Eggers & Heinlein	1,000		
G. Amsinck & Co.	1,000	9,500	
JULY 9.—By the <i>El Dia</i> =Galveston:			
Continental Mexican Co.	10,000		
JULY 10.—By the <i>Rio Grande</i> =Mobile:			
A. T. Morse & Co.	2,500		
JULY 11.—By the <i>Rancho</i> =Tuspan:			
Harburger & Stack	2,000		
H. Marquardt & Co.	1,000	3,000	
JULY 12.—By the <i>Trent</i> =Caribbean:			
Isaac Brandon & Bros.	1,300		
A. D. Straus & Co.	1,000		
G. Amsinck & Co.	1,000		
D. A. De Lima & Co.	1,000		
Kunhardt & Co.	700		
Aramburo Incepta	500	5,000	
JULY 13.—By the <i>El Indio</i> =Colon:			
Hirzel, Feltman & Co.	6,000		
Mann & Emdon	1,000		
E. B. Strout	1,200		

CENTRALS—Continued.

JUNE 28.—By the <i>La Plata</i> =Caribbean:			
Meyer Hecht	1,000		
Wessels, Kulemkamp Co.	500		
Smithers, Nordenholt & Co.	500	11,500	
JULY 10.—By the <i>La Alca</i> =Galveston:			
Continental & Mexican Co.	1,000		
JULY 16.—By the <i>Meri</i> =Fronteira:			
Harburger & Stack	5,000		
H. Marquardt & Co.	3,000		
E. Steiger & Co.	1,500		
American Trading Co.	500		
E. N. Tablals & Co.	500		
Frederick Probst & Co.	500	11,500	
JULY 16.—By the <i>Munafont</i> =London:			
Poel & Arnold	4,500		
JULY 17.—By the <i>Panama</i> =Colon:			
Piza, Nephews & Co.	7,000		
Estate Henry Feltman	2,500		
Isaac Brandon & Bros.	2,500		
Dumarest Bros. & Co.	2,500		
Laurence Johnson & Co.	2,500		
Roldan & Van Sickle	2,500		
Eggers & Heinlein	700		
G. Amsinck & Co.	500	31,500	
JULY 18.—By the <i>Virginia</i> =Honduras:			
G. Amsinck & Co.	2,500		
Suzarte & Whitney	1,500		
W. R. Grace & Co.	1,000		
H. Marquardt & Co.	500		
R. G. Barthold	500	6,000	
JULY 18.—By the <i>Yumuri</i> =Tampico:			
Edward Maurer	25,000		
Harburger & Stack	1,000	26,000	
JULY 19.—By the <i>Sibiria</i> =Colombia:			
Isaac Brandon & Bros.	2,500		
D. E. Favre Bros.	700		
Kunhardt & Co.	600		
American Trading Co.	600		
Escobar & Gorgoiz	600	5,000	

OTHER ARRIVALS AT NEW YORK

CENTRALS.

POUNDS.		JUNE 23.—By the <i>Esperanza</i> =Fronteira:	
Harburger & Stack	11,500		
E. Steiger & Co.	3,000		
American Trading Co.	3,000		
Graham, Hinkley & Co.	1,500	19,000	
JUNE 23.—By the <i>Panama</i> =Colon:			
Hirzel, Feltman & Co.	6,300		
Dumarest Bros. & Co.	2,000		
F. Rosenstein & Co.	2,900		
Mann & Emdon	1,800		
Laurence Johnson & Co.	1,200		
A. Santos & Co.	1,100		
Roldan & Van Sickle	1,000		
Isaac Kubie & Co.	800		
A. M. Capens Sons	600	17,500	
JUNE 25.—By the <i>Niagara</i> =Tampico:			
Edward Maurer	27,000		
Harburger & Stack	2,000	29,000	
JUNE 25.—By the <i>Protea</i> =New Orleans:			
Manhattan Rubber Mfg. Co.	16,000		
G. Amsinck & Co.	4,500		
A. T. Morse & Co.	2,500		
Eggers & Heinlein	2,500		
E. B. Strout	1,500	27,000	
JUNE 26.—By the <i>Venetia</i> =Colombia:			
H. & S. Henry Co.	2,000		
A. Sanders & Co.	1,500		
Isaac Brandon & Bros.	1,200		
Jeanz & Co.	700		
Kunhardt & Co.	500		
Roldan & Van Sickle	600		
Wessels, Kulemkamp Co.	600		
D. A. De Lima & Co.	600		
J. S. Halstead	500		
Mecke & Co.	200	8,900	
JUNE 27.—By the <i>El Alba</i> =Galveston:			
Continental & Mexican Co.	55,000		

AFRICANS.

POUNDS.		JUNE 25.—By the <i>Esperanza</i> =Fronteira:	
A. T. Morse & Co.	6,500		
George A. Alden & Co.	5,500	12,000	
JUNE 25.—By the <i>Vaderland</i> =Antwerp:			
Poel & Arnold	35,000		
A. T. Morse & Co.	5,000	40,000	
JUNE 27.—By the <i>Carmania</i> =Liverpool:			
George A. Alden & Co.	28,000		
Poel & Arnold	22,000		
Henry A. Gould Co.	2,500	52,500	
JUNE 29.—By the <i>Baltic</i> =Liverpool:			
General Rubber Co.	56,000		
Earle Brothers	2,500	58,500	
JUNE 29.—By the <i>Pennsular</i> =Lisbon:			
General Rubber Co.	56,000		
Poel & Arnold	50,000	112,000	
JUNE 29.—By the <i>R. public</i> =Genoa:			
Poel & Arnold	3,500		
JUNE 30.—By the <i>Lucania</i> =Liverpool:			
Rubber Trading Co.	7,000		
JULY 2.—By the <i>Philade</i> =London:			
Poel & Arnold	4,000		
JULY 2.—By the <i>Bulgaria</i> =Hamburg:			
George A. Alden & Co.	2,500		
JULY 3.—By the <i>Rare</i> =Liverpool:			
George A. Alden & Co.	12,000		
A. T. Morse & Co.	1,000	13,000	
JULY 3.—By the <i>Kroonland</i> =Antwerp:			
Rubber Trading Co.	7,000		
JULY 3.—By the <i>Pennsular</i> =Hamburg:			
A. T. Morse & Co.	2,500		
George A. Alden & Co.	1,000	3,500	
JULY 9.—By the <i>Celtic</i> =Liverpool:			
Poel & Arnold	45,000		
A. W. Bruhn & Co.	1,000	46,000	

AFRICANS—Continued.

By the	From	Value
July 15.—By the <i>Clan MacLachlan</i> —Colombo:		
A. T. Morse & Co.	30,000	
George A. Alden & Co.	11,000	41,000
July 16.—By the <i>Minneapolis</i> —London:		
Poel & Arnold	11,500	
July 16.—By the <i>Land lu</i> —Singapore:		
Poel & Arnold	45,000	
Heabler & Co.	25,000	
Joseph Cantor	13,000	83,000
July 16.—By the <i>Patric</i> —Hamburg:		
Poel & Arnold	7,500	
July 16.—By the <i>Canoe</i> —Liverpool:		
George A. Alden & Co.	6,000	
A. W. Brown & Co.	8,000	14,000
July 16.—By the <i>Imperial</i> —Antwerp:		
Poel & Arnold	50,000	
July 19.—By the <i>Teutonic</i> —Liverpool:		
A. W. Brown & Co.	11,000	
A. T. Morse & Co.	2,000	
Rubber Trading Co.	8,000	21,000
July 20.—By the <i>Samland</i> —Antwerp:		
Poel & Arnold	50,000	
July 20.—By the <i>Sloterdyk</i> —Rotterdam:		
Rubber Trading Co.	11,000	

EAST INDIAN.

By the	From	Value
June 25.—By the <i>St. Louis</i> —London:		
Poel & Arnold	22,500	
George A. Alden & Co.	3,500	26,000
June 25.—By the <i>Deer</i> —Singapore:		
George A. Alden & Co.	5,000	
Heabler & Co.	35,000	
Joseph Cantor	22,000	
F. R. Muller & Co.	1,000	43,000
July 2.—By the <i>Philadelphia</i> —London:		
Poel & Arnold	15,000	
July 2.—By the <i>Bulgaria</i> —Hamburg:		
F. R. Muller & Co.	4,000	
July 2.—By the <i>Minnetonka</i> —London:		
A. T. Morse & Co.	11,000	
July 2.—By the <i>P</i> —Liverpool:		
Poel & Arnold	11,000	

EAST INDIAN—Continued.

By the	From	Value
July 5.—By the <i>Clan MacLachlan</i> —Colombo:		
A. T. Morse & Co.	30,000	
George A. Alden & Co.	11,000	41,000
July 16.—By the <i>Minneapolis</i> —London:		
Poel & Arnold	11,500	
July 16.—By the <i>Land lu</i> —Singapore:		
Poel & Arnold	45,000	
Heabler & Co.	25,000	
Joseph Cantor	13,000	83,000
July 16.—By the <i>Patric</i> —Hamburg:		
Poel & Arnold	7,500	
July 16.—By the <i>Canoe</i> —Liverpool:		
George A. Alden & Co.	6,000	
A. W. Brown & Co.	8,000	14,000
July 16.—By the <i>Imperial</i> —Antwerp:		
Poel & Arnold	50,000	
July 19.—By the <i>Teutonic</i> —Liverpool:		
A. W. Brown & Co.	11,000	
A. T. Morse & Co.	2,000	
Rubber Trading Co.	8,000	21,000
July 20.—By the <i>Samland</i> —Antwerp:		
Poel & Arnold	50,000	
July 20.—By the <i>Sloterdyk</i> —Rotterdam:		
Rubber Trading Co.	11,000	

GUTTA PERCHA AND BALATA.

By the	From	Value
June 30.—By the <i>La Lorraine</i> —Havre:		
George A. Alden & Co.	2,500	
July 2.—By the <i>Bulgaria</i> —Hamburg:		
To Order	7,000	
July 16.—By the <i>Land lu</i> —Singapore:		
Heabler & Co.	4,000	
July 15.—By the <i>Madras</i> —Cuidad Bolivar:		
Midleton & Co.	1,500	
Thebaud Brothers	4,500	6,000
June 2.—By the <i>St. L</i> —London:		
F. R. Muller & Co.	4,500	
July 2.—By the <i>Bulgaria</i> —Hamburg:		
Earle Brothers	2,000	
July 16.—By the <i>Manacas</i> —Cuidad Bolivar:		
Thebaud Brothers	5,000	
Midleton & Co.	1,500	6,500

BALATA.—Continued.

July 2.—By the <i>Sloterdyk</i> —Rotterdam:	
Earle Brothers	7,000

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—JUNE.

Imports:	Pounds.	Value.
India-rubber	2,460,816	\$2,781,300
Gutta-percha	34,228	18,046
Gutta-jelutong (Pontianak)	2,082,705	66,199
Total	4,577,749	\$4,765,635
Exports:	Pounds.	Value.
India-rubber	75,17	\$ 37,698
Reclaimed rubber	1,291	19,544
Rubber scrap Imported	5,005	\$ 42,789

BOSTON ARRIVALS.

By the	From	Pounds.
May 2.—By the <i>Michigan</i> —Liverpool:		
Poel & Arnold—African	11,218	
May 10.—By the <i>Canadian</i> —Liverpool:		
George A. Alden & Co.—African	3,466	
May 11.—By the <i>Columbian</i> —Liverpool:		
George A. Alden & Co.—East Indian	1,577	
May 14.—By the <i>Mashona</i> —Calcutta:		
George A. Alden & Co.—East Indian	2,033	
May 15.—By the <i>Canopro</i> —Genoa:		
George A. Alden & Co.—African	1,985	
May 19.—By the <i>Sykianian</i> —Liverpool:		
F. R. Muller & Co.—African	11,730	
May 22.—By the <i>Sagamore</i> —Liverpool:		
Poel & Arnold—African	7,100	
May 28.—By the <i>Saronia</i> —Liverpool:		
F. R. Muller & Co.—African	4,400	
May 31.—By the <i>Romano</i> —Genoa:		
George A. Alden & Co.—African	2,269	
Total	45,818	
[Value \$31,729]		
GUTTA-PERCHA.		
May 11.—By the <i>Loma</i> —Liverpool:		
To Order	98	

OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
May, 1906	4,669,508	309,795	4,359,713
January-April	24,928,962	1,229,784	23,699,178
Five months, 1906	2,657,470	1,539,549	1,117,921
Five months, 1905	3,138,530	1,353,920	1,784,610
Five months, 1904	31,914,423	1,419,999	30,532,514

GERMANY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
May, 1906	14,500,200	3,054,000	11,446,200
January-April	14,500,200	3,054,000	11,446,200
Five months, 1906	18,987,080	6,113,580	12,874,400
Five months, 1905	15,022,200	4,284,280	10,737,920

FRANCE *

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
May, 1906	2,133,700	1,924,120	209,580
January-April	12,166,440	5,237,540	6,928,900
Five months, 1906	15,100,140	7,161,660	7,938,480
Five months, 1905	12,358,720	6,784,580	5,574,140
Five months, 1904	9,274,320	5,046,820	4,227,500

GREAT BRITAIN.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
May, 1906	5,048,768	3,268,048	1,780,720
January-April	23,847,264	12,645,584	11,201,680
Five months, 1906	20,796,032	15,913,632	4,882,400
Five months, 1905	27,856,192	15,425,880	12,430,312
Five months, 1904	26,208,896	15,310,070	10,898,826

ITALY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
May, 1906	207,240	20,040	177,200
January-April	958,540	97,680	860,860
Five months, 1906	1,168,780	126,720	1,030,060
Five months, 1905	733,020	117,040	616,880
Five months, 1904	738,100	40,280	688,820

BELGIUM †

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
May, 1906	2,279,167	1,149,880	1,129,287
January-April	7,007,065	4,173,950	2,833,115
Five months, 1906	9,376,232	5,323,845	4,052,387
Five months, 1905	7,381,865	5,318,974	2,062,891
Five months, 1904	7,963,093	6,306,161	1,656,932

NOTE.—German statistics before Jan. 1, 1906, include Gutta-percha, Balata, and old (waste) rubber. British figures include old rubber. French, Austrian, and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

* General Commerce.

† Special Commerce.

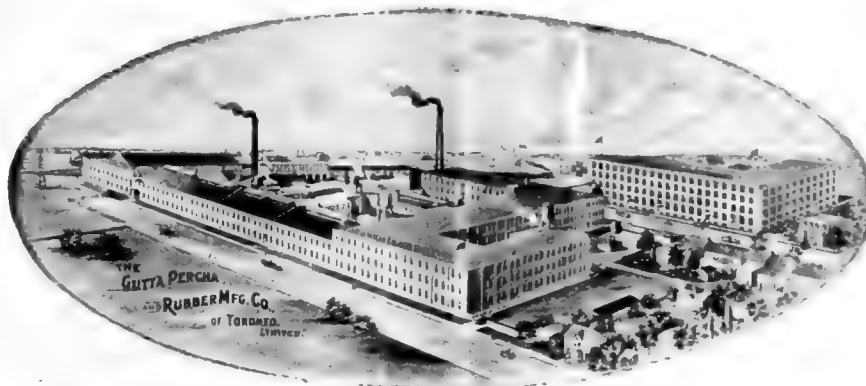
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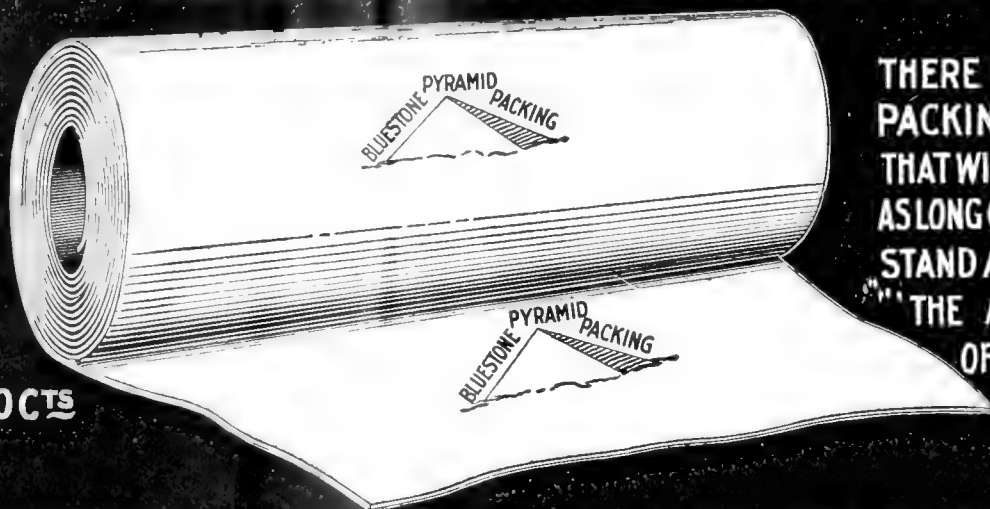
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THE RATE OF PROFIT FROM RUBBER.

FROM its outset THE INDIA RUBBER WORLD has taken a lively interest in the subject of rubber planting, with a view to determining (1) whether the more important rubber bearing species were susceptible of cultivation, and (2) whether trees developed by planting would yield satisfactorily. It was assumed that, in the event of these questions being answered in the affirmative, the profit of rubber culture would be a matter of course. After sixteen years of devotion to the subject, we can point to rubber culture as a firmly established fact; experiments with each of the leading species have shown them all capable of being cultivated, under proper conditions, and of yielding under culture a good return of rubber of a quality equal to, if not better than, the produce of forest trees.

But how about the profits? It is idle to figure out how much can be made from growing rubber. What is the profit from growing wheat, or mining coal, or keeping a hotel? How much can one man make in a lifetime by selling groceries? In every business, however legitimate and profitable, there are failures as well as successes; much depends on the man, and may depend upon circumstances beyond his control. So with rubber. Fortunes have been made in trading in "wild" rubber, and fortunes lost in the same business. The same is true of the rubber manufacture. And no matter how successful some rubber planters may be, some others will fail. Hence no investor of a given amount of rubber can count certainly on a given return.

What we do know is that money is being made in planting rubber, on estates which give every evidence of continued productiveness, while the demand promises to be permanent and to become constantly larger. As the world goes, the production of any real necessity—such as rubber is—is bound to be profitable. The chief mistake we have noticed in connection with this new culture is that made by outside investors, who have been led by the results from some particularly well circumstanced estates to pay extravagant prices for rubber company shares, and who may be disappointed at the rate of dividends. We hear that complaint has been made by shareholders in one company because the first year's dividend is *only 20 per cent.* The return is very liberal for those who hold their shares at par; those who bought later on an inflated basis have made their own price. It is the same as with bank stocks and railway securities. Thus whatever the rate of profit, the investing public is not likely to get a higher rate from rubber than from ordinary investments, because the price of shares may be expected always to rise to a point which brings the net return to the average dividend level.

The organization of many more rubber culture companies seems inevitable; indeed, this interest is only in its infancy. It is not too early, however, to be warned against overcapitalization.

THE GERMAN RUBBER INDUSTRY.

(O)WING to the fact that the shares of so many of the German rubber manufacturing companies are listed on the stock exchanges, the number of such companies making public reports of their condition is larger than in any other country. A summary of the most recent reports made by the leading German rubber companies indicates a marked improvement of conditions as compared with those existing only two or three years ago, when many industries in that country were more or less depressed. We have before us figures relating to 15 rubber companies, the latest dividends of which compare with the dividend of the preceding year as follows: 9 companies show an increase, 4 companies no change of rate, and 2 small companies a decreased dividend. Taking the 15 companies together, the average increased dividend rate is nearly 30 per cent. The average rate is not yet as high as in some former years, but a marked advance has been made since the period of depression. Nor are the bourse quotation for shares as high as in certain other years, though when considered in relation to the dividend rate, share prices are higher than two years ago. This would indicate, first, popular confidence in the soundness of the rubber industry, and secondly, a higher price level for shares generally.

A second indication of the improved condition of the German rubber industry is the increasing rate of imports of raw rubber. Germany is becoming more and more important as a distributing market for rubber, so that the imports alone do not afford a measure of consumption within the country, but indications are not lacking that the amount of raw material consumed is steadily increasing. The importance of Germany as a rubber market is illustrated by the growing direct importation of rubber from primary sources, as from Brazil, which doubtless is proving advantageous to the manufacturers here.

Finally is to be mentioned the growing export trade in German manufactures of rubber. There is to-day no important consuming market for rubber goods in which German manufacturers are not capably represented. Practically every line of rubber goods is included in these exports, while in some lines the Germans hold first place in the matter of international trade.

These lines are written, of course, without prejudice to the rubber industry in any country; it is necessary in any study of the world's rubber trade to take account of the growth which has taken place in Germany and within a few years placed her among the three leading rubber manufacturing nations, whether second or third not being easy as yet to determine. The causes which have contributed to this development deserve the consideration of the trade in every competing country.

THE RUBBER BUSINESS WILL BE REVOLUTIONIZED AGAIN when the facts become more generally known regarding a vine reported to have been discovered in a remote part of

Mexico. The story goes that some Chinese laborers wove sections of the vine into rude hammocks, which were none the less comfortable on account of the tendency of the material to stretch. The vine, indeed, was elastic, containing a high percentage of rubber, "so strong that, on breaking the wood, the rubber still holds." In other words, it is not necessary to extract the elastic material to make it of service to man; the vine in a state of nature is a good rubber cord, which, we feel sure, the ingenuity of our inventors will turn to many practical uses. It should be further noted that "in the new vine there appears to be a total absence of essential oil and rosin," though we are surprised at an admission that the vine lacks any element contained in any other plant. As for a practical application, a section of the Mexican vine, bound around a vehicle wheel, might make a good elastic tire: it would at least be cheap, and puncture proof.

NUT PLANTING IN THE UNITED STATES is an interest represented by two periodicals known to us, and a number of books have been printed for that interest. There are any number of advertisers of seeds and plants and nut planters' requirements. Besides, there are associations of nut planters in several states, and a national association, all of which apparently maintain an active existence in the promotion of the scientific culture of pecans, "English" walnuts, and the like. Apart from these indications, a reading of the journals referred to shows that nut planting, properly pursued, is distinctly profitable. Measuring the returns from nuts, besides which is to be considered the value of the timber and the advantages from the reforestation of certain sections of the country. One point of interest in this connection is that nowhere do planted nut trees begin to yield nearly so soon as do rubber trees, which would suggest that the length of time required for a rubber plantation to become productive is not necessarily a controlling objection to planting rubber.

THE FRIENDS OF GOOD PUBLIC SERVICE have reason to feel encouraged by the efforts making at Washington, under recent acts of Congress, for improving the consular system and its working. We have no sympathy with the professional critics of the consular service. Too much has been expected of the consuls, especially in the way of opening new channels for trade-work which belongs to manufacturers and merchants. At the same time, the consuls are in a position to be helpful in trade expansion of the country they represent, and many members of the service have acquitted themselves creditably in this regard. As for the pending reforms, the first step is reorganization of the system—if something which has grown up much by accident can be called a system—with a view to better defining the duties of the consuls and their relation to other branches of the public service; in other words, to decide just what the consuls should do. This matter has been taken out of "practical politics" by referring it to a board composed of members of the consular force of long experience and proved capacity. The next step will be a system of inspection, by means of which Washington can better keep in touch with the consuls, so that a man in the service at a remote post is less likely to be forgotten, and will have less opportunity to deteriorate and become useless, if not worse than useless. The good faith of the government in respect of bettering the con-

sular service is not to be doubted; and the government constantly becomes more independent, in such matters, of the claims of party leaders that consular posts be reserved as rewards for political activity. Meanwhile it should be remembered that the consuls of every country are blamed at home for not doing more for the people they represent, and the United States service is often held up as a model by European critics of their own consuls.

THE GREAT SUCCESS OF "HEVEA" PLANTING in the Far East has led to some doubt in the minds of planters elsewhere, of other species, whether they have not made a mistake in not having planted *Hevea*. It may afford some encouragement in such quarters to know that Mr. W. E. Gildea, a pronounced advocate of planting *Castilloa* in Ceylon, has successfully turned the estates in which he is interested into a joint stock enterprise, in which he and his partners hold half the shares. Investors seem as ready to buy one good rubber proposition as another, and that Mr. Gildea still believes in *Castilloa* is indicated by his retaining an interest in the plantation formed by him.

THE CONSUMPTION OF RUBBER IN EUROPE is increasing more rapidly than on this side of the Atlantic, for which there are two reasons. The first is that the use of rubber goods in certain European countries, formerly much less general than in the United States, is constantly increasing. The second is that manufacturers abroad contribute to a greater extent than the Americans to supplying the growing demand for rubber goods in those countries where no such goods are made.

GUAYULE PRODUCTION OF MEXICO.

THE exports of crude rubber from Mexico are showing a large increase of late, which is due apparently in large measure to the growth of production of rubber from Guayule. The figures for the past three fiscal years (ending June 30) are as follows, expressing weights in kilograms:

	Kilograms	Value (Silver)
In 1903-04	308,072.3	\$ 520,766.60
In 1904-05	407,803.8	719,104.29
In 1905-06	1,450,248.9	2,390,425.29

Of the exports during the last fiscal year, the figures for the first six months total 360,717.4 kilos, and from January 1, last, 1,089,531.5 tons, showing the marked increase to have dated practically from the beginning of 1906. These figures are obtained by THE INDIA RUBBER WORLD from the Mexican *Ministro de hacienda*, who observes that they doubtless include the exportations of Guayule rubber, no separate record being kept of rubber of this class. Altogether, the figures given above would indicate the shipment, during the past year, of more than 1000 tons more than the normal exports from Mexico, which may reasonably be set down as a measure of the production of Guayule.

The custom houses through which rubber was exported during the past year, and the amounts despatched through them, are as follows:

	Kilos.		Kilos.
Acapulco	687	San Blas	3,351
Ciudad Porfirio Diaz	485,140	Soconusco	32,144
Chetumal	80	Tampico	703,023
Isla del Carmel	888	Tuxpam	1,058
Laredo	47	Vera Cruz	2,33,768
Manzanillo	7,413		
Manatlan	1,150	Total	1,450,249

It appears worth noting that the declared value of rubber for export has not been greatly lowered in consequence of the lately increased output. In other words, the average value per pound in 1903-04 was \$1.69 (silver) and in 1905-06 it was \$1.54.

MEXICAN newspapers give prominence to the efforts making to form a new company on a large scale to exploit Guayule. W. H. Ellis, of New York, is named as the chief promoter, and Francisco Yanza, general manager of the Bank of London and Mexico, is interested. The projected company plans to acquire control of large areas in northern Mexico covered with the Guayule shrub and an interest has been purchased in the factory of the National Rubber Co., at Gomez Palacio, Mexico. Also the patent issued to Pablo Bergner, of Mexico City, for working Guayule rubber has been acquired.

At the same time reports are current in Texas that New York and Boston capitalists have gained control of all the Guayule areas in the western part of that state, which are said to be extensive.

A NEW SULPHUR MONOPOLY.

IT is reported that the output of the Sicilian sulphur wells brought to the United States is to be handled exclusively hereafter by the Union Sulphur Co., of New York, a concern which already dominates the brimstone trade in this country. As a result, trade authorities assert that there will be a practical monopoly held by the Union Sulphur Co. Such competition as will hereafter exist will originate with the small producers of the far Western states and unimportant Japanese shipments to Pacific coast points.

As a result of the deal it is thought that prices will be advanced. Heretofore when manufacturers wanted sulphur there were two sources of supply, either the American sulphur or the Sicilian product. The new arrangement, says the *Pharmaceutical Era*, is the result of the establishment in Sicily of a monopoly through a law recently adopted by the Italian government and in effect since August 1. The aim of the Italian law is to regulate and control the production and price of sulphur in Italy.

According to trade advices, the managers of the Italian monopoly made an arrangement with the Société Generale des Soufres, of Paris, to manage the export trade to America. This company in turn made an arrangement with the United Sulphur Co. to distribute and control the American market for the imported Sicilian sulphur.

Credit for the completion of the trade arrangement was given to Herman Frasch, president of the Union Sulphur Co. The Union company own the greatest sulphur wells in the world, near Lake Charles, Louisiana, and of the 250,000 tons of sulphur consumed in the United States this company produces and markets more than two-thirds. Mr. Frasch, who was a young chemist in the employ of the Standard Oil Co., discovered the wonderful sulphur deposits near Lake Charles several years ago, and it is due to his efforts that the United States has become a factor in the sulphur trade of the world. He is now a leading figure in the Société Generale des Soufres, and through his connection with that company was able to obtain the marketing of the Sicilian output for the United States for his own company.

RUBBER PROFITS IN THE FAR EAST.

FROM THE SINGAPORE "STRAITS TIMES."

THERE have been genuine disappointments in certain instances; and there have been definite reasons for them. The disappointments, speaking broadly, have been associated with the Malay States, partly explained by reason of the absence of experience and close supervision, and partly by the inflated notions which some people always form. Poor results have not been experienced in Ceylon because people in the island know, at first or second hand, what is happening month by month and it is some other place, alleged to be wonderfully favored by nature and ahead of the procession by the lucky speculation of those who were driven to look for something more remunerative than coffee, which is the El Dorado of the Ceylon imagination, and which should already have accomplished in rubber twice as much as the uttermost possible.

The fact is that, speaking collectively, both Malaya and Ceylon have done exceedingly well, and those planters having mature rubber or acreage approaching the bearing stage have reaped and will reap abundantly. The main question is—what are the prospects of those beginning to plant now? There is nothing whatever to cause a doubt that, with well selected land, their outlook is also extremely promising. Not so good, be it remembered, as with estates which will secure for their produce the market figures of the present and next four or five years; but still amply to show the owner of 200 acres a modest competency in ten years.

Cautious people do not publish broadcast estimates for future work based on present figures, either of market value or daily labor, without making more than mental reservations. The allowances are large and well emphasized. To illustrate the point, there are to-day reliable valuers estimating rubber in bearing, and evenly planted, as worth upwards of £200 per acre; but who would venture to value at the same figure for the year 1912 an estate being planted this autumn? Half the price would be a sufficiently roseate anticipation.

However fast the demand is increasing, it would be the height of folly to fail to understand that, with huge areas being put under cultivation all round the world's tropical belt, maintenance of anything like the present huge profit per pound cannot be reckoned upon. The investor who has hitherto been carried along in the swift current of speculation may have made more than he dreamed two years ago was possible in so brief a time, short of drawing a Derby winner; but if he is keeping what he has made in rubber, and would see it increase without taking absurd risks or preparing himself for serious disappointment, he should remember two things:—

First, immediate returns are apt to be exaggerated as the prospects of different companies are bandied about between men in the street; and (2) reliable valuations of estates in bearing or approaching bearing are now at their highest—*i.e.*, developed estates are of greater market value to-day than estates which are maturing by 1912 will be in that year. Already those who prophesied a higher average price in 1906 than in 1905, whether for fine Pará or plantation rubber, are finding themselves in the wrong.

THERE are indications that Havre is destined to become a very much more important market for crude rubber.

FARREL ACQUIRES THE KELLY PLANS.

THE Farrel Foundry and Machine Co. announce that they have purchased the drawings, patterns, and good will of the National Water Tube Boiler Co. (New Brunswick, New Jersey) for the rubber machinery which they formerly manufactured, as the National company are going out of this line of business. This business was founded by William E. Kelly, who was among the first to make a specialty of machinery for rubber work. He made an exhibit at the Philadelphia Centennial Exhibition, in 1876, which probably was the first display of the kind ever made. No doubt all of the older rubber factories in the country have at some time used machinery made at the Kelly works, though in the earlier days much equipment of such factories were made at local foundries on specifications furnished by the rubber superintendents. In an early number of THE INDIA RUBBER WORLD mention was made of Mr. Kelly having filled an important order for machinery for the rubber shoe manufacture for a large Russian factory, in competition with the leading European makers. The business was long conducted as the National Iron Works, and on the retirement of Mr. Kelly, on account of ill health, passed under the control of the National Water Tube Co. It should be mentioned that the Farrel Foundry and Machine Co. established in 1848 for making chilled rolls, have also a long record in the manufacture of rubber machinery. Mr. Franklin Farrel, son of the founder and now president of the company, has been in charge of the business since 1857.

OBITUARY.

CYRENIAS N. SQUIRES, of Naugatuck, Connecticut, died at his summer home in Middletown on August 20. He was born at Redding, Conn., January 25, 1832, and in 1850 secured employment in the rubber factory of John Greacen, at Sandy Hook. Two years later he went to the Union India Rubber Co.'s factory at Naugatuck, later operated by the Goodyear's India Rubber Glove Manufacturing Co., where he remained until early in 1904, when he retired. Two years during the civil war he was in the Union army. Mr. Squires assisted Charles Goodyear in a number of experiments and made several inventions in connection with rubber work that proved of value. Mr. Squires had four sons, whom he introduced into the rubber industry, including Eugene D. Squires, who succeeded his father as foreman of the clothing department of the Glove company, and Arthur C. Squires, now of Akron, Ohio. He had also a daughter, who is the wife of Noyes E. Alling, president of the Alling Rubber Co. At the time of leaving the Glove company Mr. Squires stated that he had never experienced a day's illness.

It is stated that in the annual parade of the New York police, recently, participated in by about 7000 members of the force, nearly all of them wore rubber collars. A newspaper mentions that over \$17,000 worth of such collars were disposed of to the men just before the parade. The use of rubber collars was not obligatory, but the suggestion came from an official that they be worn, and nearly every patrolman took them. It is mentioned that the sale was effected by a woman. An increasing sale of rubber collars and cuffs is reported in many other directions.

RESULTS OBTAINED FROM BELTS.

THE popularity of automobiles as pleasure and business vehicles has made itself felt in many branches of commerce that would appear in no way related to the motor car industry. This is true, for example, of makers and users of conveyor belts. So much rubber is used for motor vehicle tires, and so rapidly is the consumption increasing, that crude rubber has attained a much higher priced level than would, a few years ago, have seemed possible. This has had, of course, an effect upon the conveyor belt trade, and a short time ago the large users of these devices were rendered uneasy by an intimation from manufacturing sources that they might expect a sharp jump in prices in the near future.

It is conceded that rubber makes the best conveyor belt for many purposes, though cotton duck answers very well for some work. The term "rubber belt," by the way, does not always mean exactly what it says. Rubber alone has not the necessary tensile strength and is too elastic to admit of its being used for belting, so it is combined with strong canvas duck of the thickness to make a belt of the required size. There are many modifications of the rubber belt, even for conveyor purposes.

Opinions as to which is the best belt for conveying purposes are almost as many as there are users and makers. A belt that would do good service in one place might prove unsuited to another, even where the material to be moved is the same. There is really no way of determining in advance what the life of any conveyor belt will be; it must be tried out on the work for which it was intended. Each belt is, and must be, subject to conditions peculiar to itself. No two are identical no more than any two men are absolutely alike. Two belts of the same quality and make may be installed the same day in a stone crushing plant, for example. Two men will have charge of the operation of the belts. One of the belts may be worn out in a few days, while the other may last a year. This difference may be due to any one of a dozen causes, or there may be a number of contributory elements; but the chances are that the chief fault is most likely in the operator in charge of the belt that gave out first.

* * *

In discussing this point with an INDIA RUBBER WORLD representative, a large user of conveyor belts said: "Until we get exact uniformity of conditions, and until all men are exactly alike, there can be no such a thing as uniformity in the life of conveyor belts. We use many belts from 24 to 30 inches wide for conveying raw ores. On general principles we have found the rubber belt the best for our purposes, though we have had excellent results from others. After the ore is crushed we use a smaller belt, and find that for this purpose it is not necessary to use the highest grade rubber belt; in fact we are getting satisfactory service from canvas.

"As a rule, we have been unable to buy belting covered by either a carriage or time guarantee, though we have done so in some instances. Competition is brisk and manufacturers are willing to make greater concessions than formerly. Just what we shall do if prices go much higher we do not know. It will be time enough to think of that when we have to.

In the first place no one knows to-day which is the best belt. Each manufacturer claims that honor for his product, but his opinion is likely to be biased. We hope to be able to settle this question, to our own satisfaction, at least. We have had a belt made up of sections of the leading brands of conveyor belts, and are running it on our most trying work. Our experts are watching this experiment closely and noting the condition of the various sections every day. In the end we shall be able to tell what belt is best suited to our work, for it will enable us to make a comparison of belts operated under exactly the same conditions."

ONE of the severest tests that can be put upon a conveyor belt is that of carrying crushed stone. A representative of one of the biggest concerns in the business said his company used many belts of several makes and varying in width from 8 to 30 inches.

"We have had a hint that prices of rubber belts would soon go up," said he, "but we do not think the advance will be sufficient to be prohibitive. We are using a cotton duck belt that is doing fair work, but we do not believe it will take the place of rubber. The objection to this type is that it is susceptible to expansion and contraction. When a canvas belt gets damp it contracts and you have to 'set' in a piece. As it dries out it expands and becomes loose and you have to take the piece out again.

"There is no way to get at the probable life of a belt any more than there is to get at the probable life of a human being. We have got a few guarantees of conveyor belts, but they were governed entirely by conditions applying to each belt. A time guarantee depends wholly upon where the belt is to be used and the conditions governing its use. We buy a 36 inch rubber belt 194 feet long, expecting it to carry 250,000 cubic yards of crushed stone. If it does that we are satisfied; and about two-thirds of our belts do that. Under the most favorable conditions we are getting 350,000 cubic yards from a 30 inch belt 500 feet long. This belt, like most of the others we use, is run flat. We run between 5000 and 10,000 feet of belting and about 75 per cent. of it has to be renewed each year.

"While we prefer rubber conveyor belts for most of our work, there doubtless are some places where we could use a substitute advantageously if we were forced to it by high prices, though up to date I have not seen any but rubber belts that would come up to our requirements. There is a belt made of canvas filled with a compound that has the appearance of rubber, that does good work. Its makers claim the filler is not rubber, but it looks and feels like rubber. This belt is not regarded as a competitor of the rubber article; it costs less than rubber, but is more expensive than canvas."

* * *

"THERE is a marked upward tendency in the prices of crude rubber and cotton duck such as are used in making belting," a leading manufacturer said, "and that means that belting must go up. A special compound of rubber and a special weave of duck are required for this purpose. We have made no substantial advance as yet, but we may

have to do so. The demand for rubber is rapidly increasing and of course the price of rubber products must increase correspondingly.

"As to guarantees, we have sometimes given one for tonnage, though as a rule we do not regard it good business. Time guarantees are out of the question. The ordinary commercial guarantee, which implies good material and workmanship, is a different thing. Most of our conveyor belts are of the trough type, the kind chiefly used for carrying ores, coal, and stone. These have to stand the hardest possible strain and the roughest of handling, so it is obvious that we could not give a sweeping guarantee. The conditions covering the use of any one belt are never like those covering any other, so each must be reckoned with by itself."

Several important experiments are being conducted with a view to discovering an acceptable substitute for the high grade rubber conveyor belt that is now most generally used. Several belts in which reclaimed rubber was used have been tried with varying success. The chief trouble seems to be lack of uniformity. On some work the reclaimed rubber belt has proved satisfactory, especially in the narrower widths. A western mining company has secured excellent results from a long, wide belt of particularly heavy duck, with its carrying surface thickly studded with heavy copper rivets.

COAGULATION OF "CASTILLOA" RUBBER.

REPLYING to an inquiry from the Editor of the *Bulletin* of the Jamaica Department of Agriculture, Mr. S. W. Sinclair, manager of a rubber plantation at Bluefields, Nicaragua, says that it consists of a piece of board through which $\frac{1}{4}$ inch holes are bored, about 2 inches apart each way. Over this board a sheet of absorbent paper is placed. The paper must be laid on the board wet; if put on dry, it will warp and give an uneven sheet of rubber. Having the board and paper laid on wet, now proceed to tack on the rim or frame, which should be from $1\frac{1}{4}$ inches to $1\frac{1}{2}$ inches high, and your box will be ready for coagulating. As soon as the latex is brought in from the field, he adds four times its volume of water, then strains through a fine metal sieve; then the whole is placed in a cone bottom tin tank to settle, which takes about an hour. He then decants off the water until the latex becomes as thick as when it came from the tree; then he pours it into boxes and the water that is in the latex, which can't be decanted off, will pass through the absorbent paper in about 10 minutes, leaving the rubber. The latter is exposed to a heat of 110° F. for five or six hours, when the rubber can be lifted off the box. A new sheet has to be put on after being used 10 or 12 times. The time of exposure to heat varies and it is hard to give a correct formula in this respect, but one soon learns by the feel of the sheets, just when to take them from the boxes. He takes them off as soon as the fingers don't stick, when pressed against them. It may be mentioned that this method is for *Castilloa elastica*. The *Hevea* latex passes through the absorbent paper. Mr. Sinclair says that rubber coagulated on the above method becomes transparent like biscuits from Ceylon and the Straits, and runs the latter a

1. and in price

THE MATALE CEYLON RUBBER CO., LIMITED

REGISTERED in London to acquire, from February 1, 1906, the estates of Ambanganga (279 acres), Waredaminie (208 acres), and Arolsen (208 acres), in Matale North district, Ceylon. There are 187 acres of *Castilloa* and 179 acres of *Hevea* rubber, all interplanted with cocoa and 91 acres being planted with *Hevea* alone. Cocoa harvesting is to begin this year, and it is expected to tap 16,000 *Castilloa* trees (6 $\frac{1}{2}$ years old) next year. The price to be paid for the properties is £10,000 cash and £15,000 in shares. Capital, £30,000 [—\$145,995]. Secretary and offices: P. E. Hervey, 30, Mincing lane, E. C., London. One of the vendors is W. E. Gildea, one of the proprietors of Ambanganga estate, noted as an advocate of *Castilloa* planting in Ceylon.

DOS RIOS PLANTATIONS CO.

[Plantation "Dos Rios," in the State Vera Cruz, Mexico. Offices: 709 Bank of Commerce building, Kansas City, Missouri.]

THIS company, formed in January last, is a reorganization of the Dos Rios Planters' Association, one of the oldest of the planting enterprises in Mexico. The plantation "Dos Rios" is located at the junction of the Coatzacoalcos and Chalchijapa rivers, on the isthmus of Tehuantepec. The financial condition of the company is reported improved by the new arrangement. W. S. Woods is president, S. W. Mason vice president and secretary, and J. W. Rubey treasurer. Mr. Mason, who returned recently from a visit to the plantation, states that the company purpose tapping this fall 15,000 to 20,000 of their oldest rubber trees.

RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES

THE following is an official statement of values of exports of manufactures of India-Rubber and Gutta-percha for eight fiscal years, ending June 30:

YEARS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber	TOTAL.
1905-06.....	\$1,221,159	\$1,505,082	\$2,966,144	\$5,692,385
1904-05.....	994,100	1,214,342	2,572,375	4,780,817
1903-04.....	879,476	1,086,364	2,469,750	4,435,590
1902-03.....	819,985	1,056,491	2,299,875	4,176,351
1901-02.....	634,146	1,046,315	1,781,941	3,462,402
1900-01.....	565,721	724,015	1,727,527	3,017,268
1899-00.....	541,830	420,746	1,495,212	2,367,788
1898-99.....	(a)	260,886	1,504,499	1,765,385

[(a) Included in "All Other" prior to July 1, 1899]

The number of pairs of rubber footwear exported during the past six years has increased as follows:

1900-01.	1901-02	1902-03.	1903-04.	1904-05	1905-06.
1,469,100	2,594,688	2,307,401	2,310,898	2,399,539	2,063,670

THE British consul in Bolivia reports that the progress made in rubber planting in the Far East is having the effect in Bolivia of causing greater care in the production of forest rubber, and in the preservation of the trees tapped. "In former years," he writes, "it was quite a minor question if a tree became useless by over milking it."

THE Diamond Rubber Co. are proud of the record they have made this year in their tire department. Reports of the tire trade which have reached them would indicate that the company manufactured and sent out to the trade almost one-third of the tires that have been made in the country this year.

CRUDE RUBBER AND PLANTING INTERESTS.

RUBBER EXPLOITATION IN BRAZIL.

A NEW London flotation is the De Mello Brazilian Rubber Co., Limited, with £495,000 capital, of which £175,000 was offered for subscription. The vendors take the ordinary shares, £270,000, in part payment. The directorate includes some names important in trade and commerce, including a member of Callender's Cable and Construction Co. (London); two directors of Sultanats du Haut Oubangui, trading on the Congo; and Sebastiao Francisco de Mello, rubber merchant of Manãos, Brazil. The company was formed to acquire the productive rubber estates and business of Senhor de Mello, partly in the Acre district and partly in the state of Amazonas, comprising about 700,000 acres, and producing 385 tons of rubber in 1905 and an average of 300 tons for five years past. Of course only a small percentage of the rubber trees on the property have been tapped, and it is planned to extend operations. The prospectus, from which these data are gleaned, says that above 1200 rubber gatherers are at work. The assets taken over, from February 1, 1906, include two steamers, launches, horses and mules, etc., on the property; and real estate in Manãos. The house of de Mello & Co. are among the larger receivers of rubber at Manãos and among the exporters of rubber to Europe.

A VALUABLE RUBBER TREE
IN COLOMBIA.

THE "virgen" rubber of Colombia is discussed in *The Journal of the Jamaica Agricultural Society* (May, 1906) by Mr. Robert Thomson, with a view to pointing out the desirability of its cultivation in Jamaica and elsewhere. This is a species of the genus *Sapium*. The specific name *biglandulosum*, applied to this tree by the authorities at Kew, Mr. Thomson considers erroneous—*biglandulosum* is another species indigenous to vast expanses of tropical America and is useless as a commercial rubber producer. Mr. Thomson notes that about 22 years ago, when he was establishing a large cinchona plantation on the Colombian Andes, in the center of the virgen rubber region, this rubber tree was discovered and thousands cut down and hundreds of tons extracted, which was exported mainly to the United States. He frequently accompanied the rubber col-

lectors into the forest and encountered specimens up to more than 100 feet in height, one of which when cut down yielded upwards of 1 cwt. of dry rubber. Trees of smaller sizes yielded from 50 to 60 pounds of rubber. It should be borne in mind that tropical forests contain a bewildering profusion of species of plants struggling for existence. Thus important trees like cinchona, rubber, mahogany, and the like are sparsely distributed—sometimes only a few trees throughout hundreds of acres. If all the rubber trees that comprised the virgen rubber zone spontaneously distributed throughout about 1000 square miles (they were all cut down) had been concentrated in a specific area this would have been only 400 or 500 acres. "Hence," says Mr. Thomson, "the importance of establishing plantations; and plantations are not cut down as the wild trees are they yield perpetual returns under cultivation."

Whereas the other important rubber species grow in the hottest zones on the earth this *Sapium* is indigenous to the cool bracing temperature of lofty tropical mountains. The temperature on these mountains is like a perennial English spring, comparable to that on the mountains of Ceylon, where so many Englishmen flock. Hence, to prospective planters settling in Jamaica the climatic conditions involved are such as to claim their attention for *Sapium* as a species

for cultivation. The cinchona plantations established in Colombia, as also those in Jamaica, collapsed in view of the decline in the price of quinine, and Mr. Thomson recommended his cinchona company to make a plantation of this then newly discovered virgen rubber. He, therefore, planted 30,000 trees, several hundred to the acre, with the object of thinning them out later, and obtaining a small crop from the discarded trees. Mr. Thomson saw little of the plantation later, but understands that "a good deal of splendid rubber has been extracted." At a lower level a coffee planter formed a small rubber plantation with plants supplied by Mr. Thomson.

From a cultural point of view Mr. Thomson has never seen a tree that flourished like this rubber tree. He has been introducing some of the plants into Jamaica, through the medium of the botanical department, and reports that he has received from the department of agriculture at



CARRYING RUBBER "MILK" TO SMOKING PLACES. "ESTRADA" NEAR MANAOS, BRAZIL.

Washington an application for seeds of *Sapium* which it has decided, on his recommendation, to plant experimentally on lands in the south of Florida, which he visited and reported on for another purpose a few years ago.

A \$1,500,000 PLANTING COMPANY.

THE largest rubber company yet formed in respect of the Far East is the Highlands and Lowlands Para Rubber Co., Limited, registered in London June 6, with a capital of £310,000 [= \$1,508,615], in £1 shares. The company takes its name from the "Highlands" and "Lowlands" estates belonging to Mr. W. W. Bailey and his associates, near Klang, Selangor, Federated Malay States, described by Mr. Pearson in THE INDIA RUBBER WORLD, September 1, 1904 (page 407). These are among the best developed properties in existence and figure in the merger at £120,000. The various neighboring estates already brought under the control of the Batu Unjor Rubber Co., Limited, come in at £66,000. Recently a syndicate of Mr. Bailey's acquired from the government 10,000 acres between Klang and Kuala Lumpur, which goes in at £40,000, and the remainder of the £310,000 is to be working capital, for developing the 10,000 acre block. It is understood that the subscriptions to the capital reached five times the amount offered to the public.

MEXICAN PLANTING NOTES.

THE plantation "La Esmeralda," of The Vera Cruz Development Co., (Canton, Ohio), consisting of 3600 acres of land in the state of Vera Cruz, Mexico, with sugar mill and equipment, was sold under an order of court at Canton, on July 16, to A. J. Ault, for \$29,000. Mr. Ault writes to THE INDIA RUBBER WORLD from Costa Rica, Ohio, that the company will be reorganized soon. The company was organized in 1901 and has planted some rubber, but it is mainly a sugar enterprise.

YIELD OF A MALAY STATE PLANTATION.

At the second annual meeting of shareholders of The Valambrosa Rubber Co., Limited (Edinburgh, July 23), the report presented showed that 39,113 pounds of rubber harvested during the business year netted £10,745, or about 5s. 6½d. [\$1.34½] per pound. This crop was obtained from the light tapping of 557 acres; 68,235 trees were tapped—28,460 during two periods in the year, and 39,775 only at one season. The same trees are expected to yield 75000 pounds this year, and 373 acres of younger trees will be tapped for the first time. The company have 1134 acres under rubber.

RUBBER PLANTING IN THE FAR EAST.

In announcing a new edition of their "Ceylon Handbook and Directory," the publishers of *The Ceylon Observer* state their returns for this year relate to no less than 60 new rubber plantations, covering nearly 14,000 acres of actual planting. Besides, nearly every rubber estate mentioned last year appears to have increased its acreage since.

In his first annual report as director of agriculture of the Federated Malay States, Mr. J. B. Carruthers estimates that 38,000 acres have been planted to rubber to date in the States while a total of 100,000 acres has been alienated for rubber planting.

In a column of good sound sense in the way of caution against extravagant estimates of profits possible from rubber culture, Mr. A. Bethune writes to *The Times of Ceylon*:

"We know that a rubber plantation can be brought into bearing for some £20 [= \$100]. If we can get a profit per annum of that amount per acre, it means 100 per cent., and that is a good enough return for most of us." At any rate he would be satisfied with very much less than £120 per acre, as estimated by some optimists.

The first tapping by the Cicely Rubber Estates Co., Limited, in Ceylon, was done during the year ended March 31 last, when 9184 pounds of rubber were obtained from 6919 *Hevea* trees. It was sold at an average of 5s. 6d. [= \$1.33¾] per pound. This works out at about \$1.77 per tree, before the end of the eighth year. The oldest planting dates from 1898. The first year's dividend is 10 per cent. on the preference and 5 per cent. on the ordinary shares.

RUBBER PLANTING IN NEW GUINEA

THE business report of the New Guinea Compagnie (Berlin) for the business year 1904-05 goes into detail regarding the amount of rubber planted to date by the company, by species and ages, as follows:

Ages.	Castilloa.	Ficus.	Hevea.	Total
1 year.....	50,874	44,207	13,527	108,608
2 years.....	123,070	44,231	—	167,301
3 years.....	23,786	20,064	5,010	57,860
4 years.....	51,347	5,366	1,981	58,694
5 years.....	28,061	2,180	—	30,241
6 years.....	12	2,738	—	2,750
7 years.....	11	62	400	473
Total.....	277,761	125,238	20,918	423,917

This company was founded in 1885; its capital amounts to 6,000,000 marks [= \$1,428,000]; some revenue has been derived from the sale of copra and other products.



AN AMERICAN TAPPING RUBBER IN CEYLON.

[The cutting is being done by Mr. F. H. Parrish, vice president of the Gorham Rubber Co., San Francisco, California.]

AMERICAN IMPORTATION OF TIRES.

WE trust that our reputation among our readers for broadmindedness is such as to allow us to discuss so delicate and complex a question as that of imported *versus* home made tires with a steady head and without taking sides with either. Many men's greatness has been founded upon the simple policy of telling the whole story and letting their hearers draw their own conclusions. When a man states his conclusions boldly, he commits himself and lays himself open to attack, which not everybody can afford to do; while if he leaves the final decision to others, he gets the credit without the burden of deciding, and most hearers would rather have it so.

The actual number of tires imported is of no significance. The present discussion is of relative matters and of tendencies or drifts in the trade. From a business point of view, one may be indifferent whether all or none of the tires used in the United States are imported.

The question whether people will want foreign or home made tires, or any goods, for that matter, depends upon a great number of influences, the study of which is a science in itself. Fashion, which is also imitation, is generally the strongest of these forces, patriotism being a close second. Practically the whole of the British automobile industry is based upon patriotism, and the same is certainly true of the American tire trade, as yet. Without the 30 or 45 per cent. tariff on imported tires, the American tire industry could not live. For certain reasons, based largely upon fashion and inertia, a very considerable number of pneumatic automobile tires are imported, but the tax is prohibitive against solid rubber tires, in the case of which none but economic considerations are entertained.

As everybody knows, the manufacture of automobile tires began in Europe, so that the few automobiles found here in the early years all wore imported tires. Nowadays, about 90 per cent. of the automobiles owned in America are fitted with American tires. Of course the foreign tires are heavily handicapped by the duty, but we are talking about facts. Whether the time will come when only American tires will be used, can only be speculated. As was said above, it is largely a matter of fashion. Economy, which is self interest, tells us to buy where we can get the most for our money; but then comes in the question of long run and short run economy. Some people, especially the English believe in patronizing home industries; and some others, like the protectionists, believe in making folks do so, whether or no. Many men, on the other hand, find a certain pleasure in buying things from way off somewhere, and these whims and fancies have a powerful effect in trade matters. Fashions come and go, and at times people get tired of home things, because of a certain glamour which attaches to a far off origin.

Whether or not foreign tires are still better than the home made; American makes have been vastly improved within the last year, and are gaining so rapidly that many experts look for the time when American tires will compete openly with those from abroad. Even now, large numbers of imported chassis or running gears are fitted with American bodies, which are considered fully as good as the foreign.

Imported cars always wear imported tires, except in rare instances, when otherwise specified. Not only that, but the tendency of owners of imported cars is strongly toward the continued use of imported tires.

Inertia, which is habit, is stronger, in most men, than the love of experimenting. The desire to try new things is a characteristic of Americans, on the whole, but it is not a general trait of mankind. The same instinct that prompts a man to buy a foreign car also prompts him to get foreign tires. If these tires give satisfaction, which is generally true, he naturally continues their use. Foreign cars are generally much heavier than the average American make, so common sense tells him to use tires designed for this greater weight. The difference between metric and inch sizes, though less than the range of fit, is made much of by the agents, who naturally wish to sell the more expensive tire. The influence of the chauffeur, for some reason, is almost invariably in favor of the European tires. Many have suspected that the chauffeurs are influenced thus by personal interests, though this is a serious charge, and hard to prove.

Much in the same way, the buyer of an American car is very likely to buy American tires. Most car builders now give the buyer his choice between home and foreign tires at the same price; but unless otherwise specified, the cars are fitted with American tires, and the average buyer yields to the advice of the agent in this matter. American cars being far cheaper than the foreign, the American buyer of an American car naturally buys the cheaper American tire, being prompted thereto by the same motive which induced him to buy the home made car.

These are some of the reasons for the acknowledged fact that more than three-fourths of the imported tires are for use on imported cars. This has been the banner year for the importers of tires, and there has been a great increase in the sale of foreign tires for use on home made cars; but it must be kept in mind that this increase is relatively small. The whole automobile business has increased rapidly, and this same period of heavy tire importation has been marked by a more rapid limitation of their use to imported cars.

On account of the heavy duty, the best makes of imported tires are more expensive than the Americans, even though they are sold on a smaller margin of profit. The importer tries to compete openly with the home makes, and when quality is considered, the prices are about the same for each. It is barely possible that this open competition is not the best management, because it often happens that the more costly article is bought just because it is the more costly. Value and price are closely associated in the American mind, and the main difference between conveniences and luxuries is that the bidding is downward, in the one case, and upward in the other. A foreign car is a luxury, and the more expensive it is, the better does it serve as a social distinction. Were the price of imported tires doubled, the fall in sales would probably not be proportionate.

The question of tariffs makes little difference to the importer of automobile tires. Pneumatic tires, when imported separately, pay the regular duty of 30 per cent. on manufactured rubber. Imported automobiles pay 45 per cent., which

is the regular duty on manufactured steel. Consequently, when automobiles are brought in fully equipped, the tires are valued in with the rest of the car, thus paying 45 instead of 30 per cent. A complete chassis always includes the tires, the cost of these being figured in. The importer will sometimes take off the tires and ship them separately, to save 15 per cent. duty, as well as to prevent accident to the tires in the custom house; but in most cases this is not done, since the saving in duty is nearly offset by the trouble of separate shipment and remounting on this side. The duty, too, is paid by the buyer, who is generally rich, and probably knows or cares little about the difference in tariff rates.

Thus there are reasons for and against imported tires, and each buyer must judge for himself. Luck often decides whether one will cleave to his first choice or try other makes. If one's first set are thoroughly satisfactory, one is justified in sticking to that kind, though tires of the same make often differ. Hard luck and ill handling are often blamed on the tires, and in such cases a man naturally tries other makes, though most tire houses give fair guarantees against flaws. Many of the best home and foreign makes are so nearly alike, that it really doesn't matter which he chooses.

INSULATING RUBBER CABLES.

IN connection with an extensive account of the Woolwich works of Siemens Brothers & Co., Limited (London), important builders of submarine cables as well as makers of other insulated wires, *The Electrical Review* (London) gives the following description of the method of manufacture of vulcanized rubber wires and cables.

It embraces the tinning of the copper wires, which are then transferred to the bobbins of the stranding machines. After passing through these, the finished strands are wound on suitable drums for passing on to the India-rubber covering machinery.

Each covering machine is capable of dealing with 1 to 12 wires at a time, according to the size of the strand to be covered. In the case of the ordinary vulcanized rubber cables, a number of wires with a continuous strip of pure rubber above, and another below them, pass between a pair of grooved rollers, by the action of which the rubber is pressed round each wire. In order to remove the seams left between the continuous wires, the latter are caused to pass over a separating roller. The wires then enter the next section of the machine, where a layer of white separation rubber is added in a similar manner; a third layer is afterwards superposed, and this constitutes the "jacket" of vulcanized rubber. The wires are then ready for the taping shop.

From the latter the cable passes to cylindrical vulcanizers, supplied with steam from the power station boilers. Each vulcanizer is fitted with two pressure gages, one for the inner chamber and the other for the outer jacket, as well as to an instrument which continuously records the pressure and time on a paper drum. The vulcanizing history of each coil is thus available for future reference at any time.

After being vulcanized, the cores are taken to the compounding shops; they are then measured into coils of standard lengths, tested under water, and stored ready for sale.

LITERATURE OF INDIA-RUBBER.

THE PROSPECTS OF RUBBER CULTIVATION IN CEYLON. BY Henry M. Allen, planter. Reprinted from *The Times of Ceylon*. Colombo 1906. [12mo. Pp. 20.]

A STUDY of the question of yield of rubber, cost of production, prices of rubber, and profits. The writer concludes, in the presence of data showing a large yield in many cases, that an estimate of 2¼ pounds per tree, at 11 years, with a later increase, is not excessive. Likewise, that the production of plantation rubber could not be stopped without keeping prices at a permanent level of under 1 shilling per pound. However, he prefers to leave to his readers the drawing of conclusions, being content to present a compilation of facts.

IN CURRENT PERIODICALS.

Guis Caoutchoutifères d'Amazonie. By O. Labroy. [Report on the rubber yielding mistletoe.] *Journal d'Agriculture Tropicale*, Paris. VI-56 (May 31, '06). Pp. 131-133.

Bons et Mauvais Cearás. [Views of MM. DeWildeman and Chevalier on failure of some trees of *Manihot Glaziovii* to yield rubber.]—*Journal d'Agriculture Tropicale*, Paris. VI-56 (May 31, '06). Pp. 134-136.

Le Caoutchouc et le Service Agronomique de l'Afrique Occidentale Française. [Repression of frauds; Caoutchouc schools; superiority of trees to vines.]—*Journal d'Agriculture Tropicale*, Paris. VI-56 (May 31, '06). Pp. 147-148.

Vergleichende Zapfersuche nach Verschiedenen Methoden an *Manihot Glaziovii* und *Kickxia elastica* in Misahöhe, Togo. By Dr. Gruner. [Comparative study of different methods of rubber tapping, with results attained.]—*Der Tropenpflanzer*, Berlin. X-6 (June '06). Pp. 382-388.

The "Virgen" Rubber of Colombia and its Cultivation in Jamaica. By Robert Thomson.—*Journal of the Jamaica Agricultural Society*, Kingston. X-5 (May, '06). Pp. 197-199.

Experiments with Rubber Yielding Plants in Dominica. By Joseph Jones, curator botanic station. [*Castilloa elastica* and *Frontonia elastica*] *West Indian Bulletin*, Barbados. VII-1 (1906). Pp. 16-20.

Rubber Experiments in St. Lucia. By J. C. Moore, agricultural superintendent. [*Castilloa elastica*.]—*West Indian Bulletin*, Barbados. VII-1 (1906). Pp. 28-29.

Le Rendement des *Kickxia* au Cameroun. By E. DeWildeman. *Bulletin de la Société Belge d'Etudes Coloniales*, Brussels. XII-16 (June, '06). Pp. 381-386.

Die Kautschukproduktion Brasiliens und ihre mutmassliche Zukunft. By Carl Bolle.—*Der Tropenpflanzer*, Berlin. X-7 (July, '06). Pp. 435-445.

Nochmals die *Kickxia*erträge in Kamerun. *Der Tropenpflanzer*, Berlin. X-7 (July, '06). Pp. 464-468.

Comments on Present Underground Cable Practice. By Wallace S. Clark. [With reference to the specifications of the Rubber Covered Wire Engineers' Association.] *Proceedings of the American Institute of Electrical Engineers*, New York. XXV-4 (April, '06). Pp. 203-211.

Une Liane à Caoutchouc à grand Rendement. [Review of a report by Aug. Chevalier on *Landolphia Dawsonii*.] *Journal d'Agriculture Tropicale*, Paris. VI-58 (April, '06). Pp. 112-114.

Exportation et Emballage des graines d'*Hevea*. By Ulysse Bernard. *Journal d'Agriculture Tropicale*, Paris. VI-58 (April, '06). Pp. 91-91.

THERE is mentioned as an important use of waterproofing compounds the protection of telegraph and telephone poles and fence posts. The waterproofing of concrete floors also calls for considerable material.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

THE report in which Mr. P. J. Burgess sums up what he has gleaned in England as to the rubber manufacture will of course prove more interesting to the planter for whom it is intended than to the rubber manufacturer. There is little in it which calls for comment or criticism and perhaps the most noteworthy fact about it is that he was able to get so much information at first hand from British manufacturers. In referring to vulcanization, Mr. Burgess consistently refers to 300° F. as being the temperature. I should have thought, however, that as far as the great bulk of goods is concerned 275° to 285° would be a more correct figure. Then with regard to the proofing branch it is said that benzole is the solvent generally used. I don't think this is correct, because though benzole is certainly used to some extent—and might in my opinion at present prices be more largely used—ordinary solvent naphtha is much more generally used. The main objection to benzole is not in its solvent action, but in its greater degree of volatility, necessitating the dough boxes being kept tightly closed after mixing to prevent the material suffering loss from evaporation.

DITMAR has recently contributed to the *Gummi-Zeitung* some observations on the use of light carbonate in rubber.

THEIR purport is to show that in a mixing of Pará rubber with 10 per cent. of sulphur the use of magnesia up to 25 per cent. enhances both the strength and elasticity. This bears out the results which have been obtained in practice in recent years, the use of magnesia having largely increased. Twenty years ago a few hundredweights were used for special purposes, while to-day it is used by the ton by mechanical rubber manufacturers, the bulk of it in solid cab tires. The manufacture is in the hands of very few firms, as it requires an expensive plant and considerable skill to produce the light carbonate which alone is suited for rubber work. The most common impurity, which is not exactly an impurity, is hygroscopic water; this should not exceed 2 per cent., though it is often found to be 4 or 5 per cent. This water must not be confounded with the water of hydration, which is legitimately and necessarily present as the very light product is essentially a hydrated carbonate of magnesia.

OUR London contemporary in a recent issue gives an interesting account of the large reclaiming works at Copenhagen known as the Dansk Afvulkaniserings-

RECLAIMED RUBBER. Aktieselskab. Mr. Theilgaard's name has long been known in connection with rubber reclaiming and the works under notice do credit to his capacity as a technologist and an organizer. Copenhagen continues to increase both in size and in importance as a shipping center. Outside agriculture, however, the industries of Denmark are insignificant, though as regards rubber reclaiming this adjective can no longer be used. The use of neutral sulphite solutions for the removal of the free sulphur is a new departure, I take it, and certainly as regards effect upon the rubber one can see the advantage over caustic alkali, though I should not have thought the sulphites so powerful in their action. Presumably the sulphites of soda or lime are used.

We are told that the solutions are so neutral that they could be safely drunk if any one so desired. This bit of information might be utilized by such of the food preservers as use sulphite as antiseptics. It is suggested that the Danish product in its absolute neutrality scores over rubber reclaimed by the acid or alkali processes as there is always a danger that these latter may turn out a product containing traces of alkali or acid. As far as my experience goes I don't think there is much in this. I have never found free alkali in the product of the alkali process, and probably if traces were present they would be neutralized by atmospheric oxidation of the sulphur.

THIS year's meeting was held in Manchester in July but there was practically nothing of interest to the rubber trade in connection with the proceedings. A few members of the New York section were present, and Professor Lang, of Toronto University, but no one connected with the American rubber industry. Speaking at the luncheon given by the members of the Manchester section, Alderman Frankenburg, mayor of Salford, said that as an old member of the Society it would have given him much pleasure to have held a garden party for the members at Peel Park if the local committee responsible for the arrangements had approached him on the subject.

FOR the last week or two there has been a dearth of rubber plantation companies, that is as far as invitations to the public to subscribe to new ventures is concerned. Not that the company promoters are displaying any lassitude. An acquaintance of mine who is in touch with the London financial group which has made a specialty of rubber flotations tells me that he is being daily bombarded with propositions concerning new companies. Nearly everybody who has got an acre of land in Ceylon or the Straits has given a concession on it to some one who is anxious to form a company or else he is engaged in disposing of it himself on similar lines. About a good many of these concessions which are being hawked about London there is the disquieting feature that the necessary legal documents are not forthcoming and this has naturally caused a feeling of suspicion in the minds of many who have been approached. In a recent speech Sir Julius Wernher, Bart., a South African gold mining magnate, said that the mining industry was a reputable business and they were not responsible for Stock Exchange values. Admitting the truth of this without question much the same may be said of plantation rubber. It is a genuine industry with what promises to be a most prosperous future and care should be taken to discriminate between the industry itself and the methods of some of those who would foster it to their own immediate advantage.

A SINGLE bicycle factory at Birmingham—the New Hudson Cycle Co., Limited—is mentioned as employing 1100 hands, and producing an average of 1600 bicycles per week. That was during the busy season, however, but it is expected that the output for the year will reach 40,000, and the expenditure for wages £60,000 [= \$291,990].

A RUBBER SWINDLE IN WASHINGTON.

IT is said that the national capital affords an excellent field for the operation of a certain class of swindlers who, with no other resource than their "nerve," live by tempting people to invest in "concessions" and the like which promise fabulous profits, but which really exist only on paper. Washington is full of stories of the success of such "promoters."

A typical case, says the New York *Sun*, was that of a chap who did a big thing of it on the strength of a magnificent rubber plantation in Chiapas, Mexico, that he didn't own. He came to Washington about a year ago. He installed himself in a high grade boarding house and proceeded to get acquainted with the folks in the neighborhood. This cheerful worker knew everybody for blocks around the boarding house within two months after he hit the town. He didn't say a word about rubber to any of them for a long time.

Then he took two or three of the men folk into his confidence as to that proposition. He didn't ask them to buy anything. He simply told them what a fine thing he had himself, and he always had an ample bundle of yellow money somewhere in his clothes, and a trick of flashing it in a wholly unostentatious way.

He rigged matters so that they had to ask him the nature of his fine snap, and then he told them. Rubber plantation in Chiapas, ever so many tens of thousands of acres, all trees in bearing. He was acquiring some more tens of thousands of acres, however, right alongside of those already in bearing, and had organized a company to take over those new acres and finance the working of the new section. He discoursed expansively on how much money per acre rubber trees produce.

He showed the first two or three a book of photographs of the Chiapas plantation, showing his own splendid *hacienda* right in the middle of it, surrounded by palms and pictures of natives tapping the trees and collecting the rubber, and so on. He got them rubber mad. They pleaded to be allowed to get into the new company with a little savings they had put away. He didn't seem to be eager to let them in, and so they wound up by demanding that he let them in. At length he let these early ones have a few thousand shares in the new plantation at \$1 a share.

They passed the word around among their friends and neighbors, and these, too, got interested in rubber. They hunted up the ingratiating rubber man, and he permitted them to accrue some of the stock at \$1.50 a share. He confined his operations exclusively to the neighborhood of his boarding house—a region embracing a radius of about five squares in the different directions.

Then somebody came out with a word of doubt as to whether that Chiapas rubber plantation was entirely on the level. The doubtful word reached the ears of the rubber man. He flared up instantly, and then he did an audacious thing. He told the people who had purchased stock of him that he wanted them to select the most reliable man in the neighborhood to accompany him to Mexico to have a look at that Chiapas plantation. They picked out a dentist of the best repute, and together the rubber man and the dentist hied down to Chiapas, Mexico.

The rubber man showed him a sure-enough rubber planta-

tion in Chiapas, and even took him to the *hacienda* on the plantation that he pretended was his own and showed him the furniture. He happened to know that only the manager of the plantation was living in the *hacienda* at the time, and as the manager didn't know the game of the rubber man from Washington he didn't let any word fall to give the snap away or indicate that the cheerful worker from Washington didn't own the whole business.

It was a bold move, but it went through on greased skids. The rubber man and the dentist returned to Washington, and the dentist went through the neighborhood telling everybody what he had seen, what a superb thing the Chiapas plantation was, what a fine time he'd had at the *hacienda*, and so on.

Which made it mighty fine for the rubber man. They stormed his doors to buy stock at \$3 a share on the dentist man's report, and he swam on the top crest of a veritable tide of gold for four months. Then he just went away, and nobody has seen or heard of him since. The bubble didn't burst till after he left. The folks who bought his pretty, gilt embellished stock certificates know now that the plantation the dentist man was shown around in Chiapas belongs to a man who has never been in the United States. The beauty of this grafter's dodge was that everything he took in was pure velvet, except for the cost of having the pretty stock certificates printed. He didn't spend a nickel for advertising.

A NEW RUBBER IN VENEZUELA.

ACCORDING to a report of the British Consul at Ciudad, Bolivar, a new and previously unknown kind of rubber tree has been discovered in the extensive forests of the Caura district, in Venezuela, situated from 150 to 200 miles to the west and southwest of that port. Sample lots of the rubber produced from this tree have been sent to London, New York and Hamburg, and have realized from 3s. to 3s. 6d. per pound. This price is remunerative, as good facilities for transport by water exist. Unfortunately as yet no efficient system of tapping the trees has been discovered, as by the method of tapping applied to the India-rubber trees on the Rio Negro district the milk does not exude freely. The consequence is that the collectors fell the trees to be able to tap them all along the trunk, following in this respect the system they employ for collecting Balata. This of course will bring about the eventual exhaustion of the forests, which in the case of the Balata tree is already beginning to be felt.

RUBBER RATS IN CEYLON.

RATS are now numbered among enemies of the rubber tree. Complaints are made in Ceylon of the depredations by rats on young rubber trees, the attacks being made apparently on the roots of the tree. It has long been known there that porcupines are also serious depredators in the low country, and damage has been done by monkeys on some low country estates. This is rather a formidable array of enemies for the young rubber tree to face, but the Ceylon Tea Plantations Co. are adopting a cheap and efficacious method of meeting such attacks by the use of coarse wire netting round the stems of the young trees, which not only saves them from the living pests above referred to, but keeps the trees, when planted among tea, from being damaged by weeders and pluckers.

LEAD JACKETED UNDERGROUND CABLES OPPOSED.

IN a paper on Present Underground Cable Practice,* Mr. Wallace S. Clark mentions that practically all cables of the class under consideration have continuous metallic sheaths, and asks: Is this the best engineering?

Low tension cables are run in conduits with some portion of the circuit grounded. The continuous sheath on these cables is an invitation to stray currents and consequent electrolysis. In railway practice, grounding the sheath at each manhole was announced as a cure for electrolysis, but instead of a cure it has been found in some cases to be a cause of trouble. The amount of current carried by the sheath is greatly increased, producing a drop in electromotive force between ground strips sufficient to cause a flow of current to earth at some intermediate point in the duct and in sufficient volume to give trouble. In the case of a burn-out, the continuity of the sheath aggravates the trouble. The volume of current carried by these low tension conductors is so large that in many cases circuit-breakers or fuses will not operate with the current due to the short circuit.

Omitting the sheath will cure all these ills. To do this would bar paper, lead-jacketed cables absolutely, and would increase the depreciation account if some type of cable insulation needing lead only, as wood needs paint, were used. Abandoning the lead entirely is an economic possibility with only very large conductors, where it may be cheaper to renew the insulation on a non-leaded cable, say once in 10 years, than to renew a lead jacket cable once in 20 years. These figures are, of course, merely used for comparison. If, therefore, we are compelled to use a lead sheath, the writer believes that it should be interrupted by some form of insulating joint on low tension cables.

If this plan is carried out, a serious difficulty is the inability to test the insulation of the cable. This may be met by the use of an insulated wire—proof or pressure wire—in the outer layer of strands forming the copper core. Such wire should be insulated with some material like treated paper susceptible to the absorption of moisture. Suggestions for the various uses of such a wire are given. For the purposes of initial tests when cable is installed, the joints in the sheath may be bridged by fine fuse wires, which are afterwards removed.

With high tension lines some of the troubles due to the metallic sheath on low tension cables less marked. The load is usually more uniform and subject to less violent fluctuation, especially where sub stations with batteries are in use, allowing protective devices to be set so as to operate more promptly. Further, in the case of a network such cables are usually protected against a reversal of current, so that the arc at the fault is not maintained by energy derived from the network or sub station.

The metal sheath on high tension cables must be earthed to prevent danger to life, and also risk of puncturing the insulation by cumulative static charge.

In the matter of sheaths, for a number of years the writer

has been advocating multiple conductor cables for arc circuits, instead of several cables in the same duct in trunk lines. The running of a lot of small cables in one duct is not good practice; a burn-out on one cable is likely to injure others in the duct, and the withdrawal of a defective cable for repairs is apt mechanically to injure the other cables. Of course, one conductor in a duct is ideal, but barred by cost in small sizes.

The writer considers the question, Should we use a heavy wall of a cheap so-called rubber compound, or a lighter wall of better quality? Thick insulation has, among other points, these against it: (1) Increased size of cable, involving increased cost of the sheath, duct space and handling; (2) thicker wall for heat generated in conductor to flow through, resulting in higher operating temperature in the copper core; (3) and, most serious of all, the frequent acceptance of a poor quality of compound having a very short life.

The last feature is the cause of the ill repute in which so many engineers hold rubber insulated conductors. There appears to be confusion in the minds of some engineers as to high insulation, resistance, high puncturing resistance and durability, which do not of necessity bear any relation to one another. An insulating material may have any one or any two of these, and be deficient as to the remaining quality or qualities. In reaching this conclusion the writer covers somewhat the same ground as Mr. John Langan, in a paper on rubber insulation, abstracted in THE INDIA RUBBER WORLD (July 1—page 326). But in any event a reasonable amount of good rubber in the present state of the art is necessary to insure durability.

A table of puncturing voltage, insulation resistance, and electrostatic capacity tests is given to show that these factors are not very good guides as to the durability of the insulation. In the case of the use of insulation compounds having three different amounts of rubber, the relative deterioration in one year in elastic limit was respectively 66 per cent., 30 per cent. and 20 per cent., though there was by no means a corresponding difference in the results obtained from the voltage and other tests.

There is little accurate knowledge as to the limit of durability of which insulated cables are capable. An idea of the life of a rubber cable leaded and operating at 11,000 volts, 25 cycles, is afforded by certain cables of the Cataract Power and Conduit Co. (Buffalo, New York). There are two 3 conductor cables, with rubber insulation $\frac{9}{32}$ inch on each conductor, no over all jacket. Each cable is 32,052 feet in length, of which about two-thirds was installed in 1897 and the remainder early in 1899. Yet it appears that there is no indication of any electrochemical or other electrical action weakening the ability of the insulation to withstand the working pressure. These, Mr. Clark believes, are the oldest working rubber-insulated 11,000-volt three-phase cables anywhere in use.

Further, these cables, originally operating alone, are now in multiple with some 32 miles of 3-conductor cables, and probably subjected to more severe strains than when first installed. From a study of the data he has collected regarding these cables, the writer believes that cables for very

* Presented at the 26th meeting of the American Institute of Electrical Engineers, New York

high tension will be made with combined insulations of varying capacities, rather than with a homogeneous insulation of any insulating material now in use.

Cables are, roughly, of two classes: those whose insulating material is not injured by submersion in reasonably clean water, and a second class which will not withstand such test. For cables of the first class the metallic sheath is primarily for the purpose of lessening the rate of deterioration, and secondarily to protect against mechanical injury during installation. The sheath on these cables should be comparatively thin and be proportioned to the weight of the cable. The second class of insulation will only be serviceable so long as the sheath is intact, and therefore the metal should be heavier and show less variation as to its thickness with the weight of the cable. The writer does not mean to be understood as endorsing the specifications which call for $\frac{1}{4}$ inch lead on No. 6 wires, but rather the suggestion of a minimum thickness of $\frac{1}{32}$ inch on paper and jute insulated cables, increasing gradually in proportion to weight and diameter to say $\frac{3}{32}$ inch on the largest cables ($2\frac{1}{2}$ inch) now in common commercial use.

Mr. Clark hopes to see actively taken up the standardization of some of the principal dimensions of underground cables. In conclusion, he commends the following specifications, as better than any other he has seen:

SPECIFICATIONS 30 PER CENT. RUBBER INSULATING COMPOUND, RUBBER-COVERED WIRE ENGINEERS' ASSOCIATION.

The compound shall contain not less than 30 per cent. by weight of fine dry Pará rubber which has not previously been used in rubber compounds. The composition of the remaining 70 per cent. shall be left to the discretion of the manufacturer.

Chemical. The vulcanized rubber compound shall contain not more than 6 per cent. by weight of acetone extract. For this determination the acetone extraction shall be carried on for 5 hours in a Soxhlet extractor, as improved by Dr. C. O. Weber.

Mechanical. The rubber insulation shall be homogeneous in character, shall be placed concentrically about the conductor, and shall have a tensile strength of not less than 800 pounds per square inch. A sample of vulcanized rubber compound, not less than 4 inches in length shall be cut from the wire with a sharp knife held tangent to the copper. Marks shall be placed on the sample 2 inches apart. The sample shall be stretched until the marks are 6 inches apart and then immediately released; one minute after such release the marks shall not be over $2\frac{3}{8}$ inches apart. The sample shall then be stretched until the marks are 9 inches apart before breaking. For the purpose of these tests, care must be used in cutting to obtain a proper sample, and the manufacturer shall not be responsible for results obtained from samples imperfectly cut.

Electrical. Each and every length of conductor shall comply with the requirements given in the following table. [The table is too extensive to be embraced here. It shows the results required in the case of rubber insulation of various thicknesses, from $\frac{3}{32}$ to $\frac{1}{16}$ inch.] The tests shall be made at the works of the manufacturer when the conductor is covered with vulcanized rubber, and before the application of other coverings than tape or braid. Tests shall be made after at least 12 hours' submersion in water and while still immersed. The voltage specified shall be applied for 5 minutes. The insulation test shall follow the voltage test, shall be made with a battery of not less than 100 nor more than 500 volts, and the reading shall be taken after one minute's electrification. Where tests for acceptance are made by the purchaser on his own premises, such tests shall be made within 10 days on receipt of wire or cable by purchaser.

Inspection.—The purchaser may send to the works of the manu-

facturer, a representative who shall be afforded all necessary facilities to make the above specified electrical and mechanical tests, and also to assure himself that the 30 per cent. of rubber above specified is actually put into the compound; but he shall not be privileged to inquire what ingredients are used to make up the remaining 70 per cent. of the compound.

THE HIGHEST TENSION CABLES.

THE notable rubber manufacturing firm of Pirelli & Co., at Milan, Italy, as was to be expected, figure to an important extent in the Milan exhibition, and particularly in their display of high tension cables. At the St. Louis exhibition, in 1904, the firm showed a cable designed for a normal working voltage of 50,000, while now at Milan they exhibit a cable designed for 100,000 volts, normal working pressure, which is expected to stand with ease 200,000 volts, and which will be tested with a special 300,000 volt transformer at the time of the Milan electrical congress, in September.

In this cable, says the *Electrical World* advantage is taken of all theoretically important points, the stranded conductor being covered with a lead sheath, thus producing a smooth surface of much greater radius, and by this simple device alone the static strain is considered to be reduced more than 10 per cent. The insulation is then wrapped in layers disposed in the order of decreased specific inductive capacity from the center of the cable to the circumference, and by careful choice of the materials an extremely uniform potential gradient to alternating current is presented.

An important theory of the grading of cables for capacity has been developed by the chief engineer of the Pirelli firm, Mr. Emmanuel Jona, now also president of the Italian Institute of Electrical Engineers. He was the author of an important paper read at St. Louis, in 1904, and which was abstracted shortly after in THE INDIA RUBBER WORLD.

The Pirelli firm are reported to be doing an important export trade. A recent purchase of their high tension cables by the Ontario Power Development Co., at Niagara Falls, has created much comment.

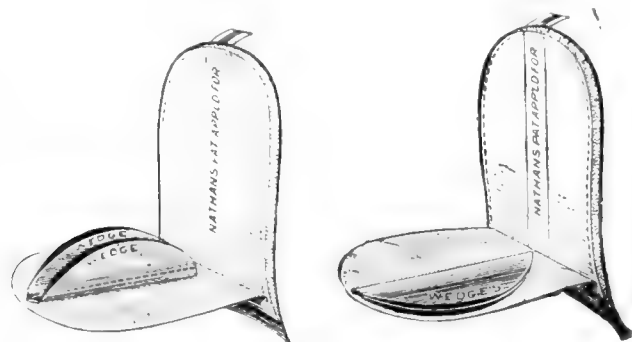
RUBBER IN FISH BAITS.

IT is safe to say that there is no article of the sportsman's equipment that has been derived from materials of greater variety and diversity than the fish lures which we designate by the general name of artificial baits, says *The Sporting Goods Gazette*. After discussing the artificial fly, the writer says: Rubber both soft and vulcanized is largely used and the former is also used in the making of artificial worms for bass and trout, the rubber cord being coated with what is known as ox-blood hued Japalac, a red enamel which is very durable and dries easily in the sun and air. The vulcanized rubber is most useful because it takes the color necessary to imitate the minnow, and if it be well varnished and dried hard, the hard rubber bait is one of the most durable and is the best material ever used for that purpose. Wood is used also and the hardest wood is the ash. It takes the color well and is easily formed to the right shape. Metal, especially nickel, is the material of some of the best of these baits, and the Devon minnow which is so much used for trout in Devonshire, England, and in New England is silver-plated and very brilliant and strong.

NEW GOODS AND SPECIALTIES IN RUBBER.

ADJUSTABLE ANTI-CROOKED HEEL CUSHION.

HHEEL cushions of various sorts of course are not new, but the Adjustable Anti Crooked Heel Cushion is, and as may be readily surmised, it has been an instant success. It consists of rubber wedges inserted



in a heel cushion, and as shown in the illustrations, they may be placed in any desired position. Here they are partly raised in one instance and in the other both are on one side. Their use prevents the wearing over of heels and counters of shoes on either side, and will prevent jarring of the spine. They also give the wearer a springy step that makes walking a pleasure, and they can be arranged to give one an added height of from half an inch to an inch. The adjustment may be such that either side may be raised or they may be worn on the level. Much is claimed for this cushion for children, as they are particularly liable to run their heels over, causing weak ankles and flat-foot, and this misfortune, it is said, is overcome by the use of the Adjustable Anti-Crooked Heel Cushion. It is not attached to the heel of the shoe but is simply slipped inside. This cushion may be obtained in all sizes, for men, women, and children. [The Nathan Anklet Support Co., New York.]

EXHIBIT RUBBER STEM.

THE genuine sport of the fisherman is enhanced a thousand-fold, to put it mildly, when using the Flexible Rubber Stem Patent Adjustable Cork Floats. Who would be without them? It is impossible for them to become entangled in underbrush, limbs, etc., the flexible stem bending so that the float will pass any obstruction. These floats are something quite new and novel, and they are immensely popular. A little device of this sort sometimes makes a vast difference in the turn of a day's sport and those who have been made happy in its use wonder why they had not long ago thought of the same thing, so simple is it in its conception and construction. Those who own these floats no longer have the experience of dealing with broken or pulled out stems. They

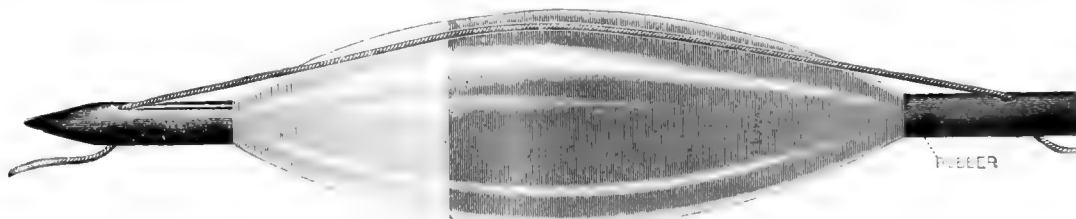
are made in all sizes and in egg and barrel shape. [Norvell-Shapleigh Hardware Co., St. Louis.]

BLACK RUBBER HEELS.

THE demand for rubber heels seems to be so much in evidence that some manufacturers are sending their shoes to dealers with these heels already attached. They have been so long with us that they are assured of a permanent place and no longer can be considered an experiment or a fad that will be of short duration. Since they have reached the stage of permanency there have been constant efforts to improve upon the first productions and in some instances this has been effectually done. The Black Rubber Heels are now having a heavy run. They have been made by a process whereby the heel is impervious to hard wear. Of course they wear out in time but they stand up longer and wear better than is usually expected of a rubber heel. As durability is one of the primary requisites it is not to be wondered at that the concern manufacturing them is shipping enormous orders. Dealers no longer have any trepidation about carrying a large supply, hence the increase in the output with the prospect that there will be no diminution so long as shoes are made as at present. One wonders what field rubber will next invade, so widespread has its use become and withal so satisfactory. Such a degree of comfort as has accrued from the use of the rubber heel makes thousands of pedestrians debtors to the bit of rubber and the power behind the throne that first suggested its use in this connection. The Black Rubber Heels are manufactured by Morgan & Wright, Chicago.

GOLF AND TENNIS BOTTOMS FOR SHOES.

IN playing golf it is necessary for the foot to turn upon the ball as upon a pivot, that a more powerful swing may be given to the golf club and the most telling blow struck. This necessitates the turning of the foot in a semicircle without raising it from the ground, and any attachment that would aid the movement would be an advantage to the player. In the golf and tennis bottoms a ring of rubber has been attached to the sole of the shoe under the ball of the foot, and a flexible semicircular piece to the sole at the toe. The ring alone is an effective attachment and is often used without the semicircular attachment at the toe. The advantage in having both is, that the player may swing on the ball of the foot or on the toe (the semicircle covering the sole of the shoe at the toe). The hollows formed within the attachments create a vacuum which tends to prevent slipping and this advantage combined with that of there being no injury to the grass on the links or on polished floors, puts this patent on the high road to success. Harry Sandeman of Lon-



FLEXIBLE RUBBER STEM ADJUSTABLE CORK FLOAT.

don, England, is the United States patentee.

THE WAYNE FOOTHOLD.

THE sandal footholds have long been the popular style but one that is fast gaining favor is that designed like the storm rubber, but having no heel, the strap being somewhat broader, and fitting higher over the foot. This is really a substitute for a rubber in a fuller sense than the sandal, the protection for the heel being really a secondary matter. These footholds come in the best grade of rubber and are made for both men and women. The protection that they afford with a minimum amount of rubber to be carried about is appreciated by those who object to wearing rubbers because of the tendency to draw the feet. [The Grand Rapids Felt Boot Co., Grand Rapids, Michigan.]

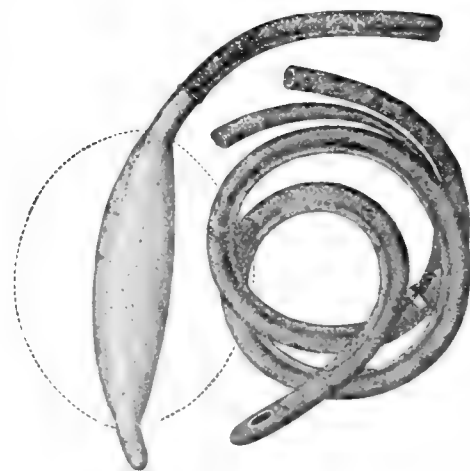


"BRISTLETITE" SHAVING BRUSH.

WHEN a shaving brush is guaranteed to hold the bristles, it interests every man who shaves, and this means a large majority. The claims made for the "Bristletite" are somewhat extraordinary, yet the users of the brushes claim that they are well founded. The peculiar and careful process of making this brush, it might be said by way of explanation, is what warrants the claims for it. The bristles are not only tightly and firmly bound, and not only permanently and securely cemented with the best cement, but being shrunk into the shank of the handle, they are held with unyielding firmness. The handle, too, has its good qualities. Being of hard rubber it will never soak up, swell, or split, and it is not affected by water or soap. There is no varnish to scale off and it is perfectly sanitary. Besides this it has the attribute of attractiveness in appearance and this is desirable even in so small a matter as a shaving brush. [Hardman Rubber Co., Belleville, N. J.]

TURCK'S NEEDLE DOUCHE.

THE physicians of the present day are, to a great extent, partakers of the benefits of the inventive genius, and of



course it follows that every patient shares that benefit. Turck's Needle Douche and Intra-Gastric Bag have been most effective instruments in working out the desired results with the greatest satisfaction. The douche consists of a double tube with a perforated end to be intro-

duced into the stomach, and a larger tube for the immediate return of the water. When the instrument is introduced into the stomach that organ immediately becomes inflated with air and a strong force of water is passed through the

smaller tube which projects the shower. This procedure will remove the material from the walls of the stomach that cannot be removed with ordinary lavage. It is a powerful muscular stimulant and also quickens the sluggish circulation. The bag used in connection with the douche is of finest Pará rubber, very light, but strong, and is fastened 6½ inches from the tube. [The B. F. Goodrich Co., Akron, Ohio.]

HOPEWELL TIRE CASE.

By many, a tire case is considered almost an essential part of the auto outfit. The Hopewell Case is a continuous casing which wraps around the tire to protect it from water, dust, grease, etc., and is, everything considered, a great saving. It is simple in its arrangement, having a cord at one end and a metallic cable at the other. To adjust the case to the tire all that is necessary to do is to place the flap with cord smoothly around the tire, tighten the cord and tie. Then wind the remaining flap with wire cord around tire, adjust smoothly, pull cord tight and fasten in slots. The inner diameter of the case does not have to pass over the outside diameter; consequently the inner portion of the tire case is made a perfect fit to the tire and has no wrinkled appearance. These cases are made of enameled duck in black, and of artificial leather in the prevailing colors. [Hopewell Brothers, Cambridge, Massachusetts.]



THE AMERICAN VIBRATOR.

IN these days of electrical supremacy in almost every department of mechanics, it is not strange that it should make its entrance into the realm of science and be accepted as an advance movement in the march of various professions. Among others the medical profession is recognizing its merits, and various appliances are being put onto the market for the most approved dissemination of this mysterious force. The American Vibrator is just now being looked upon with a good deal of favor seemingly, as it does, to hold great remedial potentialities. This is especially true because of its making possible a series of self treatments that need not be dispensed with when one is traveling. It was the first portable vibrator ever manufactured, and its weight is but three pounds with its case. It can be attached to any incandescent lamp socket and may be operated equally well on either the direct or alternating current. The perfect adjustability of its strike, and the ease with which it may be started or stopped all tend to increase its value appreciably. There is no unpleasantness in its use, the soft pressure of the small rubber cup being rather pleasant than otherwise. Leading physicians recommend the use of the vibrator for delicate children. By applying the soft rubber applicators to the tender muscles of the child the tissues are developed. [The American Vibrator Co., St. Louis.]

RECENT RUBBER PATENTS.

UNITED STATES OF AMERICA.

ISSUED JUNE 26, 1906.

- N**O. 824,240. Supplemental tire for vehicle wheels. C. H. Goodman, Bucyrus, Ohio.
- 824,241. Vehicle wheel. W. E. Greer, Akron, Ohio, assignor of one-half to G. H. Conrad, Coventry township, Summit County, Ohio.
- 824,375. Eraser tip for lead pencils, penholders, pencil point protectors and the like. F. McIntyre, assignor to Eagle Pencil Co., both of New York city.
- 824,446. Pipe or hose and process of manufacturing the same. P. Sechiari, Paris, France, assignor to La Société Civile d'Etudes de L'Indeclinable Grimson, Lyon-Villeurbanne, France.
- 824,454. Bath tub [with shower bath attachment]. W. Vanderman, Willimantic, Conn.
- 824,471. Nebulizer. A. C. Eggers, assignor to Goodyear & India Rubber Glove Mfg. Co., both of New York city.
- 824,476. Wheel tire. T. Furlong, St. Louis.
- 824,515. Storm front for vehicles. C. M. Stone, assignor of one-third each to F. I. Burrows (trustee) and F. I. Burrows, all of Connersville, Ind.
- 824,604. Pneumatic tire. C. R. Twitchell, assignor of one-half to J. M. Brennan, both of Los Angeles, Cal.
- 824,605. Belt. J. M. Van Orden, Cedar Grove, N. J., assignor to Van Orden Corset Co.
- 824,631. Combination stopper and liquid dropper. J. L. Dunnock, Baltimore, Md.
- 824,664. Life preserver. G. Krieger, Brooklyn, N. Y.
- 824,670. Hose coupling. J. F. McElroy, assignor to Consolidated Car Heating Co., both of Albany, N. Y.
- 824,683. Pneumatic carpet cleaner. J. I. Chestnutt, Chicago, assignor to T. G. Orwig, Des Moines, Iowa.

Trade Marks

- 8,049. Unlined linen fire hose. C. Nuhring, Cincinnati, Ohio. *Essential feature*—The letters L X L.
- 19,045. Dress shields. The Stork Co., Boston, Mass. *Essential feature*.—The word STORK associated with the representation of a stork.

ISSUED JULY 3, 1906.

- 824,753. Hose coupling. J. J. Stephens, Vernon, Texas.
- 824,772. Vehicle wheel [with pneumatic cushion in the hub]. J. A. Yarger, Nashua, Iowa.
- 824,774. Storm apron for vehicles. H. C. Benner, Lancaster, Pa.
- 824,778. Cushion tire. J. C. Burdick, Jr., Flushing, N. Y.
- 824,790. Fountain pen. S. W. Jameson, Kansas City, Mo.
- 824,817. Fish bait or lure. B. O. Rhodes, assignor to W. Shakespeare, Jr., both of Kalamazoo, Mich.
- 824,844. Elastic tire. A. W. Carpenter, London, England.
- 825,060. Process for reclaiming vulcanized rubber waste. A. Kitzel, Vienna, Austria-Hungary.
- 825,117. Hose coupling for cars. D. P. Fahrney, H. E. Doran, and G. E. Newton, Springfield, Mo.
- 825,220. Hose coupling. A. W. Irvin, Altoona, Pa.
- 825,269. Tire. W. A. Field, Chicago.

ISSUED JULY 10, 1906.

- 825,287. Tire plug. D. Apstein, Bridgeport, Conn.
- 825,354. Pipe coupling. P. J. Schnoor, Holstein, Iowa.
- 825,437. Horseshoe. J. B. White, Buffalo, N. Y.
- 825,442. Fountain pen. F. W. Bender, Hoboken, N. J.
- 825,480. Nozzle coupling. P. Paterson and W. Gregory, Cleveland, Ohio.
- 825,515. Spring heel cushion for shoes. M. Byrne and W. G. Young, San Francisco, Cal.
- 825,561. Abdominal supporter. K. L. Storm, Philadelphia, Pa.
- 825,572. Apparatus for inflating vehicle tires. M. A. Baker, Los Angeles, Cal., assignor to A. T. Fisher, Brooklyn, N. Y.
- 825,575. Lawn sprinkler. K. A. Barkelew and C. L. Grigsby, Redlands, Cal.
- 825,715. Cover for pneumatic tires. E. Fortier-Beaulieu, assignor

to Ste. Fortier-Beaulieu, both of Roanne, France.

- 825,821. Wheel [with cushion blocks mounted between the felloe and a metal tire]. I. W. Giles, New Bedford and C. W. Tobey Fairhaven, Mass.
- 825,851. Rubber footwear. P. M. MacKaskie, assignor of one-half to K. Pittman, both of Tonopah, Nev.
- 825,869. Attachment for golf or tennis boots or shoes. H. Sandeman, London, England.

ISSUED JULY 17, 1906.

- 825,930. Composition for sealing punctures in pneumatic tires. J. E. Noe, San Francisco.
- 826,018. Hose coupling. I. R. Concoff, Portland, Oregon.
- 826,073. Cushion for hernia trusses. W. Wagner, Kreuznach, Germany.
- 826,091. Syringe. A. B. Dorman, Winthrop, Mass.
- 826,143. Tire construction. J. C. Cole, assignor to The Fisk Rubber Co., Chicopee Falls, Mass.
- 826,144. Tire fastening device. *Same*.
- 826,145. Swimming apparatus. Z. T. Cox, Salt Lake City, Utah.
- 826,172. Syringe. C. J. Kintner, New York city.
- 826,188. Syringe. A. W. Nicholls, Chicago.
- 826,213. Apparatus for vulcanizing rubber tires. N. Ahrbin, New York city.
- 826,338. Wheel tire. J. H. Kressler, Bethlehem, Pa.
- 826,353. Coupling retaining means for metallic hose. R. B. Panton, Williamsport, Pa., assignor of one-third to J. H. Bailey, Muncy, Pa., and W. Bailey, Jersey Shore, Pa.
- 826,405. Elastic tire. A. T. Collier, St. Albans, England, assignor to The Reilloc Tyre Co., Ltd., London.
- 826,461. Vehicle tire. C. E. W. Woodward, Chicopee Falls, Mass., assignor of one-half each to Knox Automobile Co., Springfield, Mass., and Olds Motor Works, Detroit, Mich.
- 826,490. Tire. J. H. Swain, assignor, by mesne assignments, to H. M. & S. Armored Tire Co., Inc., both of Pittsburgh, Pa.
- 826,504. Boot or shoe heel. J. R. Hauptenthal, Auburn, N. Y.

ISSUED JULY 24, 1906.

- 826,552. Fountain pen. C. Dunn, New York city.
- 826,612. Tire [Pneumatic]. W. B. Sawyer, assignor of one-third to S. G. Armstrong, both of Riverside, Cal.
- 826,617. Wheel [with pneumatic tire]. G. Shugers, Auburn, Ind.
- 826,622. Solid rubber tire. J. A. Swinehart, Akron, Ohio.
- 826,623. Pneumatic tire. *Same*.
- 826,685. Medical irrigator. J. A. Noble, San Francisco, Cal.
- 826,740. Rubber overshoe. L. Peroitt, Newark, N. J.
- 826,865. Wheel [with pneumatic tire]. J. W. Meixell, Lewisburg, Pa.
- 826,914. Vehicle wheel. L. A. Allwine, assignor of one-half to L. C. Worden, both of Lorain, Ohio.
- 826,958. Horseshoe. W. D. O'Brien, Snow Shoe, Pa.
- 826,959. Horseshoe. *Same*.
- 826,960. Horseshoe. *Same*.
- 827,004. Fountain pen. B. F. Flint, assignor to D. B. Kaufmann, both of Cincinnati, Ohio.
- 827,020. Cushion tire. T. Howard, Philpot, Ky.
- 827,022. Fountain pen. D. B. Kaufmann, Cincinnati, Ohio.

ISSUED JULY 31, 1906.

- 827,159. Teat cup for milking machines. F. A. Lane, assignor to D. H. Burrell & Co., both of Little Falls, N. Y.
- 827,169. Teat cup for milking machines. *Same*.
- 827,174. Spraying machine. J. W. Patterson, Reed City, Mich.
- 827,236. Combined rubber dam clamp and holder. H. J. Hansen, La Crosse, Wis.
- 827,277. Art of making hollow hard rubber articles. W. W. Weitling, College Point, N. Y., assignor to American Hard Rubber Co.
- 827,321. Cushion tire. W. H. Parham, Paducah, Ky.
- 827,350. Signal attachment for life preservers. A. C. Crofford, Newcastle, Wyo.
- 827,376. Fountain brush. B. D. Knickerbocker, assignor to Knickerbocker Mfg. Co., both of Chicago.
- 827,383. Aseptic syringe. P. J. McElroy, Cambridge, and W. A. Randall, Swampscott, Mass.
- 827,490. Exercising bag. W. G. Wood, San Francisco, Cal.

- 827,474. Vehicle wheel with pneumatic ring tube in the hub. G. W. T. Akehurst White Marsh, Md.
 827,536. Air cleaning apparatus. G. J. Kindel, Denver, Colo.
 827,559. Vehicle tire. F. E. Newcomb, Cleveland, Ohio.
 827,601. Lock horseshoe. W. Basjanoff, Moscow, Russia.
 827,640. Adjustable compressor for flexible tubes. J. J. Jessup, assignor to Brass Goods Mfg. Co., both of Brooklyn, N. Y.
 827,655. Ear trumpet. C. W. Levalley, Milwaukee, Wis.
 827,693. Hypodermic syringe. F. W. Korb assignor to The United States Dental Mfg. Co., both of Cleveland, Ohio.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 50 cents each, postpaid.]

GREAT BRITAIN AND IRELAND

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1905.

* Denotes Patents for American Inventions.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, JULY 15, 1906.]

- 3,835 (1905). Inhaler for administering anaesthetics. M. H. Donston, Tottenham, Middlesex.
 3,878 (1905). Ear appliance [for persons with impaired hearing; a telephone receiver with one or more transmitters, and provided with a handle containing batteries and an induction coil]. S. Oppenheimer, London.
 3,881 (1905). Stopper for preserve jar. J. M. Cairns, Paisley, Renfrewshire.
 3,950 (1905). Protective cover for pneumatic tire [consisting of studs riveted to a tread band]. B. Brooks, Birmingham.
 4,019 (1905). Pneumatic wheel. [An elastic tube is interposed between the nave and the outer portion of the wheel.] E. C. Wade, Lewes.
 4,112 (1905). Vehicle wheel. [A flexible chain for use on pneumatic tire covers, as a driving band, is formed of interlocking metallic links, fitted with elastic pads.] G. Helps, Nuneaton, Warwickshire.
 4,184 (1905). Means for attaching pneumatic tires to wheel rims. C. H. Stotesbury, and T. P. Reid, East Dulwich, Surrey.
 4,184a (1905). Protective nonskid band for pneumatic tire [comprising rows of metal linked together by bolts, which may serve to fasten the band to a cover on the tire]. *Same*.
 4,253 (1905). Elastic tire [having its base wider than the metal rim so as to be compressed by detachable side flanges; is secured by means of endless rings]. A. S. Krotz, Springfield, Ohio.
 4,270 (1905). Elastic tire [The outer rim is connected to the wooden rim by a series of blade springs, and comprises hoops of leather and India-rubber fastened together by bolts.] G. Floquet, Paris.
 4,302 (1905). Pneumatic tire. [Inner tubes are protected by a canvas backing connected to the rubber by vulcanization, the narrow strip left uncovered, opposite the wheel rim, being strengthened by an additional rubber facing.] C. E. Lange, Gotha, Germany.
 4,356 (1905). Metal armor for pneumatic tires to prevent slipping and puncture. B. Birnbaum, London.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, JULY 15, 1906.]

- 4,457 (1905). Appliance for preventing wind-sucking in cattle [Consists of a band with a pad on its underside and an elastic band attached to its ends]. F. Rottenberger, Starnberg, Munich, and T. Kranz, Steindorf Bruck, Upper Bavaria.
 4,468 (1905). Elastic tire. H. Gilardoni and H. Leriche, Paris, France.
 4,790 (1905). Pneumatic tire. [To prevent slipping a series of projections having cup like recesses are molded to the tread.] T. W. Moore, Manchester.
 4,828 (1905). Pneumatic tire [having leather tread band fitted with metal plates]. J. O. O'Brien, Manchester. (A. Dutrieux-Lamelin, Le Quesnoy (Nord) France.)
 5,168 (1905). Tire cover made of leather to prevent puncture. R. and C. H. Wallwork, Manchester.
 5,249 (1905). Horseshoe. E. M. Miller, New York.
 5,258 (1905). Elastic tire [formed of a fabric tube filled with an artificial rubber which is a product of oil and sulphur]. L. Posnansky, Berlin, Germany.

- * 5,534 (1905). Elastic tire. W. L. Ring and P. L. Cooper, Saginaw, Michigan.
 5,571 (1905). Protective tread, made of blocks of rubber, for pneumatic tires. J. Russell, Newcastle-on-Tyne.
 * 5,580 (1905). Vulcanizer for the repair of tires without removal from the wheels. J. M. Padgett, Topeka, Kansas.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, JULY 15, 1906.]

- 5,855 (1905). Leather band to prevent tire punctures. J. Pullman, Teddington, Middlesex, and E. E. Pullman, Godalming, Surrey.
 5,858 (1905). Device to prevent tire punctures. [Consists of two metallic rings interposed between the outer cover and the air tube.] W. Helme and F. Curzon, Liverpool.
 5,917 (1905). Self closing rubber valve for tire tubes. W. R. Darling, Patrick, Lanarkshire, Scotland.
 * 5,927 (1905). Elastic tire. F. H. Bowly and D. J. Runyon, New York.
 * 5,965 (1905). India-rubber fabric. [Hard rubber is combined with a textile fabric in the manufacture of wipers for horses, dashboards, etc.] W. R. Sine, Jersey City, N. J., and J. S. Rosenthal, Baltimore, Maryland.
 5,971 (1905). Pneumatic tire. [Air tubes are constructed with a longitudinal fold to prevent their being injured when the flanges of the outer cover are being placed in position.] F. Veith, Odenwald, Germany.
 * 6,065 (1905). Mat [for use in bath tubs] J. H. Pugh, New York.
 6,148 (1905). Vaporizer; inhaler. H. C. Payne, London.

THE FRENCH REPUBLIC.

PATENTS ISSUED (WITH DATES OF APPLICATION)

- 360,387 (Dec. 13). H. H. Frost. Vulcanizing apparatus.
 360,461 (Dec. 14). A. B. Dehoulet. Puncture proof tire.
 360,468 (Dec. 14). Elastic tire.
 360,531 (Dec. 12). A. Deler. Pneumatic wheel.
 Results Attained from Conveyor Belts.
 360,538 (Dec. 18, 1905). Cheverau. Skid tread.
 360,586 (Dec. 19). J. A. Meline. Quick repair tire.
 360,651 (Dec. 19). J. de Pontoux. Pneumatic tire.
 360,688 (Dec. 19). Dunn & Ross. Pneumatic tire.
 360,689 (Dec. 18). C. Mireau. Skid tread.
 360,606 (Nov. 22). J. Bötsch. Elastic tire.
 360,750 (Dec. 21). Faus. Pneumatic tire.
 360,776 (Dec. 22). L. G. Worms. Rubber tire.
 360,804 (Nov. 23). Dussart and Accou. Puncture proof tire.
 360,828 (March 13). Decobert. Skid tread.
 360,887 (Dec. 23). Romain Talbot. Pneumatic tire.
 360,920 (Dec. 23). Continental Caoutchouc and Guttapercha Co. Rivet for skid treads.
 360,968 (Dec. 27). R. S. Bryant. Rim for tires.
 360,985 (Dec. 27). Foussadier. Rivet for skid treads.
 361,028 (Oct. 11). G. Juzan. Tire tread.
 361,052 (Nov. 28). Petracchi. Rim for tires.
 361,074 (Dec. 11). P. Nivet. Pneumatic tire.
 361,105 (Dec. 22). Auberge. Spring wheel.
 361,167 (Dec. 29). Besombes. Puncture proof tire.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Bobet, Ingenieur-Conseil, 16 avenue de Villiers, Paris, at 50 cents each, postpaid.]

BRITISH investors seem not disposed to limit their interest in rubber to their colonies in Asia, judging from the issue of a prospectus of The Zambesi Rubber Plantations and Fruit Farms, Limited, with £50,000 capital, under the companies ordinance of Southern Rhodesia (Africa), to acquire a concession of 10,000 acres granted to Sydney Redrup from the British South Africa Co., north of the Zambesi river. The plans involve the planting of 250,000 rubber trees, within three years, at an estimated cost of £12,000. Various fruits are also to be cultivated. The secretary is J. C. Pilsworth, 1, Scott's building, Bulawayo.

RUBBER TIRES FOR FIRE APPARATUS.

THOUGH it is only nine years since the first fire fighting machine was equipped with rubber tires the success of the change has been so marked that at this time the New York fire department alone has in use 150 vehicles upon which the old style steel tires have been displaced by those of rubber. Gradually the substitution is being effected, and as all new machines purchased are required to have rubber tires, it is a matter of a comparatively short time when the metal tire will have passed into oblivion, so far as this city is concerned. As New York sets the pace for America in whatever pertains to fire extinguishing and prevention, it is but recording a fact to state that in all the larger and most of the smaller cities, the tire question is in the same state of transformation.

Early in 1897 some genius in Boston suggested that rubber tires could be advantageously applied to fire apparatuses. So rapidly do events succeed each other in this busy world that the identity of this Boston genius has been lost and all record of his experiments. At all events, he got hold of a hand engine and fitted it with rubber tired wheels. The experiment attracted but little attention and all interest in it soon died out. It is said that the tires were neither well made nor securely fastened, and that the desired results were not attained.

One man who did not lose sight of the matter was Curtis Wigg, a wideawake, enterprising and insistent salesman for what was then the American Rubber Tire Co., of New York. He had unbounded faith in rubber tires for anything that ran on wheels. Chief Bonner was then at the head of the New York fire department. Wigg kept persisting and insisting until he got Bonner to look with some favor upon rubber tires and at last to give them a trial.

Engine No. 23, in one of the quieter districts "uptown," was selected for the experiment. In due time the enthusiastic Wigg was able to report that the tires were on and the machine ready for business. Subsequent events proved the soundness of Wigg's theories and the wisdom of Bonner's acquiescence. The experiment was a success from every point of view. So enthusiastic did the latter become that he had rubber tires fitted to his own runabout, known in the department as a "chief's wagon." There are 53 chief's wagons in the department and to-day every one of them runs on rubber tires. Mr. Wigg, who by-the-way, is still in the rubber tire business in New York, had the satisfaction

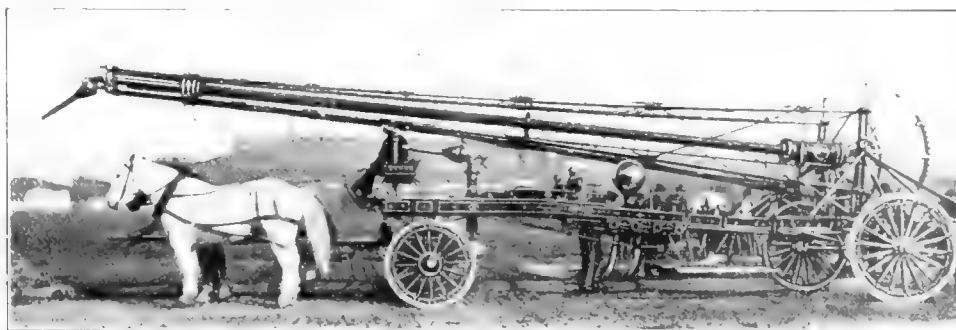
of seeing the skeptics in the trade converted to his way of thinking, though not with unmixed satisfaction, since some of these doubters entered the field as competitors for fire department business.

The tires used on the first steam fire engine were made under the Grant patent, having two longitudinal wires running through the rubber to retain it in the rim channel. The same type is still used, and is the most popular in the fire department. In the largest tires 4 wires are used. These tires are 4 inches wide. In 3½ inch tires 3 wires are used. These tires are used on the water towers, engines, and trucks. The hose wagons and other lighter vehicles are equipped with tires having but 2 wires. All the other types of solid tires are also used. Under the present system of awarding contracts no company can have a monopoly of the business. Bids are advertised for and the contract is given to the lowest bidder for furnishing tires according to specifications supplied by the department.

It is claimed, and not disputed, that the severest test that can be put upon rubber tires is the fire department service. The apparatus is exceedingly heavy, and in responding to alarms the best possible speed must be made regardless of conditions, either of apparatus or streets. Strangely enough, there is little call for repairs to the rubber tires used in the fire department. When repairs are necessary, the job is "let out," generally to the concern that supplied the tires.

But tires will wear out, which is a different story. In this connection it is worth noting that good rubber tires will last from one to three years, according to service demanded of them. The greatest foe to the rubber tires on fire apparatus is the car tracks which gridiron the city streets. Under the circumstances the life of the tires is satisfactory to the fire department officials.

There are several distinct advantages possessed by rubber over metal tires. The greatest of these is economy, and the lesser ones are but offshoots that lead up to it. The loss due to the jolting and vibration, particularly to fire engines, amounts to considerable each year; not to mention the crippling of the department by having the machines go often to the repair shop. The mechanism of the engines gets worn, broken, and loosened, while the other vehicles are thrown out of working condition. Much of this has disappeared since rubber tires were introduced, and there will be a still greater reduction of expenditures for repairs when all



HEAVY FIRE APPARATUS WITH RUBBER TIRE EQUIPMENT

the apparatus has been rubber tired.

The equipment of wheeled apparatus of the New York fire department in three of the boroughs—Manhattan, the Bronx, and Richmond—includes 129 fire engines, averaging 8000 pounds in weight; 55 hook and ladder trucks, 10,000 pounds; 113 hose wagons, 3500 pounds; 53 chief's wagons; and 5 water towers, 7000 pounds. The specifications for tires are as follows:

"Three-and-a-half inch solid rubber tires are to be put on forward wheels and 4 inch on hind wheels, containing not less than 50 per cent. of pará rubber, free from scrap or other injurious material, manufactured in a thoroughly high grade and first class manner; the base fastening to be of such construction as to overcome and prevent the rubber being cut through or out and guaranteed to prevent the tire from creeping or loosening on the wheel."

TREATMENT OF GUAYULE RUBBER

DR. WALTER ESCH, a German chemist of note, who has made a special study of the new Guayule rubber, was commissioned recently to visit England for the purpose of demonstrating to the rubber manufacturers there the properties of the Mexican product. From an interview with Dr. Esch in *The India-Rubber Journal*, it appears that Guayule rubber has received little attention at the hands of British manufacturers; "altogether there were only two manufacturers who knew how to make profitable use of this cheap raw material." The point is made that Guayule cannot be treated in manufacturing the same way as Pará and other kinds. The Guayule shrub does not contain latex, as other rubber trees do, but rubber already of a rather consistent kind. As now prepared, this rubber contains considerable wood fiber, which, when the ordinary washer is used, is forced into the rubber instead of being removed. Dr. Esch advises the use of the old wash-hollander, which cuts the rubber into small pieces. By heating the water used, the Guayule expands, causing the particles to lose their adherence, so that the wood fibers are freed and drop to the bottom. After this treatment, the Guayule requires to be washed in cold water and then spread on a wire netting and dried in dark rooms at a low temperature.

There are to be considered in connection with compounds containing Guayule the slow vulcanization and the resin contents. Guayule belongs to the class of very slowly vulcanizing rubbers, and for these an addition of heavy calcined magnesia is desirable. Dr. Esch stated that he knew of three rubber shoe works which had used Guayule with satisfactory results. He believes it well adapted even for making hard rubber combs. He had seen a comb mixture consisting of 2-3 Guayule and 1-3 Pará which experienced working managers considered as good, apparently at least, as a mixture of 2-3 Pará and 1-3 Guayule.

* * *

THE United States consul at Saltillo, Mexico, Mr. Duhaime, reports: "Many sales of Guayule on the ground have been reported at over five times the price at which the land itself was held at previous to this boom. The buying up of this shrub began about the latter part of the year 1904, at \$15 Mexican currency per ton. But, owing to the numerous parties anxious to secure quantities large enough to justify them in erecting factories for the extraction of the gum,

buyers now find it very difficult to arrange deals. Recently, contracts for large lots have been reported at as high as \$100 Mexican currency per ton."

CHARLES R. FLINT IN RUSSIA.

A SERIES of letters on affairs in Russia, both entertaining and informing, is being contributed to the New York *Globe* by William E. Curtis, one of the best newspaper correspondents of the time. A recent letter is devoted to news and gossip concerning the Americans now in St. Petersburg,



CHARLES R. FLINT.

including the following reference to one who was so long prominent in rubber interests:

"Charles R. Flint, of New York, is becoming more or less a permanent resident of St. Petersburg. He has been here for more than a year doing business with the government. He has sold several torpedo boats and a quantity of naval

and military supplies, and has been trying to induce the minister of marine to buy the entire fleet of Chili and the Argentine republic, which are offered for sale because those two enterprising nations have entered into a treaty of permanent peace. They have both agreed to disarm and tie themselves together with olive branches. The Russian government, however, has no money to spend for cruisers and battleships just now. So Mr. Flint is watching events.

"When the political troubles are over and things settle down he thinks that Russia will be the most profitable field for enterprise in all the universe. In the mean time he is learning the language and making valuable acquaintances among influential men in financial and political circles.

"Mr. Flint spends a good deal of time at the Duma, where the coming men, the prospective leaders of Russian affairs and future cabinet ministers, are to be found. The leaders of the Duma are eager to get his advice and counsel."

THE seventh annual automobile show in New York, under the auspices of the Automobile Club of America and the American Motor Car Manufacturers' Association, will be held during the first week in December, instead of January as in former years. This change of date is due to a general desire on the part of automobile manufacturers to place their new models before the public earlier in the season than has been the case in the past. No doubt the rubber tire manufacturers will appreciate the change for a like reason. The show will be held at the Grand Central Palace, the largest building available for exhibition purposes in New York. Paris salon and the Olympia show in London have always been held in December.

RUBBER PRODUCTION OF THE WORLD.

CONGO RUBBER AND THE ANTWERP MARKET.

It may possess interest for many in the trade, in view of the varying opinions which exist in regard to the future of the Congo rubber output, to have a statement of the yield of the various districts for three years past. In the table first given on this page is a statement of the quantities of rubber received at Antwerp in each year, in kilograms, and by companies. It should be added that these are gross weights, and therefore some larger than appear in the usual statistical records, in which the tare is deducted.

ARRIVALS OF RUBBER IN THE ANTWERP MARKET (GROSS WEIGHTS), BY COMPANIES.

CONGO FREE STATE	1903.	1904.	1905
Société Générale Africaine	2,881,000	2,080,484	2,068,236
Société A B I R.	951,000	487,498	358,673
Sté Anversoise du Commerce au Congo	525,500	316,918	80,510
Comité Spécial du Katanga	28,000	106,380	56,041
Cie du Chemin de fer des Grands Lacs	101,000	60,997	150,998
Société An. Isanghi.	61,400	56,611	56,041
Compagnie du Kasai	815,000	910,551	1,209,889
Sté An. Belge Commerce du Haut Congo	150,600	97,369	107,155
Compagnie du Lomami	183,000	138,981	125,876
Soc. An. La Belgica	6,500	5,600	3,650
Société An. l'Ikembu	3,100	7,746	10,260
Société Equatoriale Congolaise	22,400	24,828	17,638
Société Anonyme La Lulonga	38,500	30,950	6,571
Camille D'Heygere	.....	11,294	4,913
Comptoir Commercial Congolais	137,700	134,871	114,994
Cie Bruxelloise pr Commerce au Congo	.....	10,916	22,389
Compagnie Andreu	3,200	.....	.....
Total Belgian Companies.	5,098,700	4,488,003	4,511,118

FRENCH CONGO:

Société Ibenga	1,098	.....	.....
Société du Baniembe	13,198	3,956	.....
Soc. Agricole de l'Alima	22,768	29,217	.....
Messageries Fluviales du Congo	3,857	.....	.....
Société Alimaïennes	53,227	24,085	.....
Société de la Mobaye	.....	.....	.....
Compagnie Française du Congo	12,593	20,20	.....
Cie Française du Haut Congo	17,532	60,212	.....
Soc. Anonyme La Kotto	15,425	24,699	.....
Sté An. de la Haute Sangha	98,265	98,000	.....
Sté Ekela Kadei Sangha	85,916	112,786	.....
Cie des Produits de la Sangha	15,080	.....	.....
Sté de la Sangha Equatoriale	.....	2,236	.....
Sultanats du Haut Oubanghi	89,073	158,611	.....
Sté Anonyme M'Poko	75,425	85,870	.....
Cie N'Goko Sangha	23,442	23,487	.....
Sté An. des Procédés d'extraction	4,161	809	.....
Compagnie de la Lobay	43,629	68,901	.....
Cie du Kouango Français	10,619	27,794	.....
Sté de la Haute N'Gounié	1,443	3,910	.....
Cie du Kouilou Niari	4,200	10,569	.....
Cie Coloniale Ogooué N'Gounié	8,034	6,754	.....
Soc. de l'Est Africain	.....	53,977	.....
Société du Haut Ogooué	.....	15,919	.....
Etablissements Malgaches Grady (Madagascar)	.....	13,095	.....
Société de l'N'Kémé & de l'N'Ken	.....	16,010	.....
Henry Laloux	.....	14,170	.....
Total French Companies	.....	625,985	905,319

KAMERUN:

Société Süd Kamerun	53,166	14,369	64,791
General Total	5,158,357	5,111,228	.....

OUTPUT OF RUBBER FOR THREE YEARS, FROM THE CONGO FREE STATE BY DISTRICTS.

CONGO DISTRICTS	Gross Weights in Tons		
	1903.	1904.	1905.
L'Equateur	2,000	1,800	1,000
Kasai	9,000	10,000	12,000
Bangala	800	600	600
Stanley Falls	100	300	300
L'Uele	300	200	200
Lae Leopold	250	100	50
L'Aruwimi	250	100	100
L'Ubanghi	150	100	70
Lualaba and Katanga	150	250	270
Kasongo	250	100	100
Stanley-Pool	50	50	50
Cataracts	50	50	50
Mayumbe and Lower Congo	10	30	30
Total	5960	4480	4510

But the table as stands shows whether or not a given company is receiving more or less rubber now than formerly.

The second table, also dealing with gross weights, shows a falling off in the yield of some districts of the Congo Free State, while other districts are yielding more. The reason for this latter fact it would be of interest to know. Or, it might be asked whether all these districts will in time show a decline in production.

In one of the tables details are given in regard to the rubber coming to Antwerp from the French Congo, the yield of which country has been showing an increase of late, after a considerable decline.

THE LATEST PARA CROP YEAR.

THE total arrivals of rubber at Pará during the crop season ending June 30, 1906, amounted to 34,490 tons, against 33,060 tons in the year preceding and 30,580 tons in 1903-04. Heilbut, Symons & Co. (London and Liverpool) have prepared the following synopsis of the disposal of the Amazon output for the latest twelve months:

	Para.	Cancho	Total.
Visible supplies June 30, 1905	1,850	880	2,730
Para arrivals to June 30, 1906	28,340	6,150	34,490
Aggregating	30,190	7,030	37,220
*Loss through shrinkage afloat	2,250	330	2,580
Leaving available	27,940	6,700	34,640
Deliveries for consumption	25,140	6,020	31,160
Visible supplies June 30, 1906.	2,800	680	3,480

The deliveries for consumption during the twelve months under review are analyzed by the same firm as follows:

	Para.	Cancho	Total.
From Liverpool	3,010	3,130	12,140
From Continental Ports	4,060	1,100	5,160
From New York	12,070	1,790	13,860
Total	25,140	6,020	31,160

They report that throughout the year European manufacturers were working with very small reserves. Deliveries were larger than in the preceding year, indicating a very large increase in consumption. In America deliveries appear to have been somewhat smaller, but the actual consumption was probably unchanged. At the beginning of the crop year

* Between Para and consuming port, estimated at 5 per cent. on Para sorts and 5 per cent. on Cancho.

considerable stocks were held by American factories, which for statistical purposes were then regarded as taken into consumption, whereas these quantities were, in reality, only used up by degrees. Such a position does not now exist, and it is probable that for some time to come deliveries will give a nearer indication of the consumption.

Heilbut, Symons & Co. regard the outlook for the new crop one of normal development, with an eventual total of not less than for the season lately ended.

HECHT'S RUBBER STATISTICS.

For reasons which will be appreciated in the trade, it is impossible to state positively how much rubber is produced or consumed in the world in any year. It is of interest, however, to consider the results of the most careful estimates possible to be made by leading houses, and such an estimate appears in the annual statistical chart of Hecht, Levis & Kahn, of London, for the year ended June 30, 1906. The figures they obtain, relating to every kind of rubber, compared with their returns for the preceding year, are as follows:

	1904-05.	1905-06.
Total arrivals in Europe..... tons	35,386	37,486
Total arrivals in America.....	29,803	25,596
Aggregating.....	66,279	63,082
Total deliveries for consumption in Europe.....	35,712	36,670
Total deliveries in America.....	29,374	25,904
Aggregating.....	65,083	62,574
Stocks in Europe, end of year.....	2,670	3,486
Stocks in America.....	862	554
Approximate total production.....	3,532	4,040
Approximate total consumption.....	65,879	67,999
Approximate total visible supply.....	65,083	62,574
	4,584	5,312

TIRE TROUBLES ON THE GLIDDEN TOUR.

THE question of tires is discussed by two writers in *The Horseless Age* in reviewing the results of the late 1200 mile Glidden tour. Harry B. Haines says: "The run had been a hard one on tires and on the cars which had not replaced shoes these were in shreds, being full of sharp cuts and stone bruises, the result of the high speed work done regardless of road conditions. One thing that was noticeable, however, was that there had been very few blow outs, and most of the tire troubles had been the result of punctures. It was evident that the present tire product is a better one and more serviceable than that of a year or two ago."

While hard luck in the matter of tires pursued certain cars in the contest quite relentlessly, says Albert L. Clough, there were a few cars which came through with little or no tire troubles. It would be interesting to know how much the tire expense was for the entire tour and how many tubes and covers were used, but no official records were kept on this or on any technical question. "One thing is certain that the time and labor required for the repair of tire troubles have been greatly reduced of late, by the use of improved methods of tire fastening. Quite a number of cars have lost their clean scores through delays occasioned by tire trouble, and it is to be regretted that there is no available method by which delays due to this cause can be allowed for, so as not to count against the reputation of the car which suffers them."

BRITISH RUBBER GOODS EXPORTS.

EXPORTS of British manufactures of India-rubber goods during two years past, as officially stated, were in value as follows:

	1904.	1905.
Boots and shoes.....	£ 205,035	£ 236,403
Other rubber goods.....	1,214,404	1,284,497
Waterproofs.....	252,388	227,893
Total.....	£ 1,677,917	£ 1,770,793
In U. S. money.....	\$8,109,144	\$8,700,483

Exports to the United States amounted in 1904 to £57,380 of British and £6305 of foreign manufacture and in 1905 to £55,765 of British and £20,409 of foreign manufacture. No waterproofs were included.

The principal exports of rubber footwear in 1904 were as follows: To France, £27,727; Belgium £22,678; Austria-Hungary, £12,395; Hongkong, £48,525; Australia, £25,404; British East Indies, £10,552; Cape of Good Hope, £8770. In 1905: To France, £30,460; Belgium, £25,382; China, £16,215; Turkey, £12,020; Hongkong, £37,761; Australia, £27,389; British East Indies, £12,938; Cape of Good Hope, £12,946; Natal, £10,402.

The quantity of rubber footwear exported was as follows in dozen pairs:

	1904.	1905.
British manufacture.....	172,822	197,811
Foreign manufacture.....	36,501	9,966
Total.....	212,323	207,777

Imports of rubber footwear into the United Kingdom in the two years were as follows, in dozen pairs:

FROM—	1903.	1904.	1905.
United States.....	62,216	106,733	60,395
Germany.....	53,700	29,754	42,418
France.....	3,604	12,148	14,273
Belgium.....	3,726	9,772	12,807
Holland.....	7,354	4,537	837
Canada.....	4,748	13,083	10,602
Other countries.....	6	625	2,572
Total.....	135,354	176,652	143,904

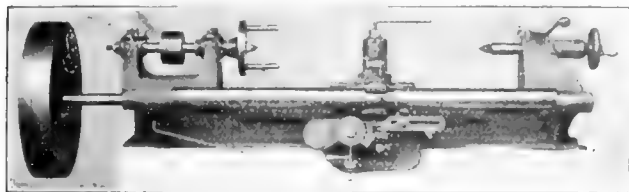
ARE TIRES BECOMING SMALLER?

NOTWITHSTANDING the improved method of manufacture and the increased sizes of tires now in common use, says *Automobile Topics*, it is safe to say that more cars are undertired now than ever before. In the modern cars the chassis is longer and heavier, every appliance is fitted and very heavy bodies are used yet the tires remain the same. Large tires cost more to purchase, but in the long run will be found just as economical as the smaller ones.

The same subject is referred to in *The Motor World*. It says: "One of the evils directly invited by the loosening of all restrictions on tires is showing its head even sooner than was anticipated. There are several automobile manufacturers bent on equipping their cars with tires with smaller diameters." This tendency was formerly the cause of much friction between the tire makers and the car builders, but in time it was relieved by an agreement as to the dimensions of tires for the vehicles of given weights. It is natural of course that automobile makers should wish to save the cost represented by the difference of an inch or a half inch in the diameter of a set of tires, and just as natural that tire makers should oppose the use of the smaller tires. *The Motor World* regrets to see this cause of friction being revived.

JAR RING CUTTING LATHE.

THE illustration shown herewith represents an automatic jar ring cutting lathe, which will cut rings for fruit jars and the like at the rate of about 125 per minute. This machine is entirely automatic in its work, it only being necessary for the attendant in charge to place the mandrel with the rubber on it in the machine and start the latter



running. It will cut in any diameter, provided the walls are not to exceed $\frac{3}{8}$ inch in thickness, varying in width from 12 to 24 to the inch. The only limit to the diameter of the rings is that the hole through the same must be so large that the mandrel will not spring when the knife enters the rubber. [John E. Thropp & Sons Co., Trenton, New Jersey.]

THE PISTON PACKING INDUSTRY.

SO various and widespread are the uses for packings nowadays that it may not always be realized that the original use for goods of this type was for steam pistons. The great desideratum in a piston is that it should admit of no leakage, and have as little friction as is consistent with this quality. Watt, the father of the steam engine as a practical device, tried to arrive at these results by the use of metallic packing, but with so little satisfaction that he gave it up. Then came packings into which vegetable and animal substances entered. Pistons were packed with unspun long

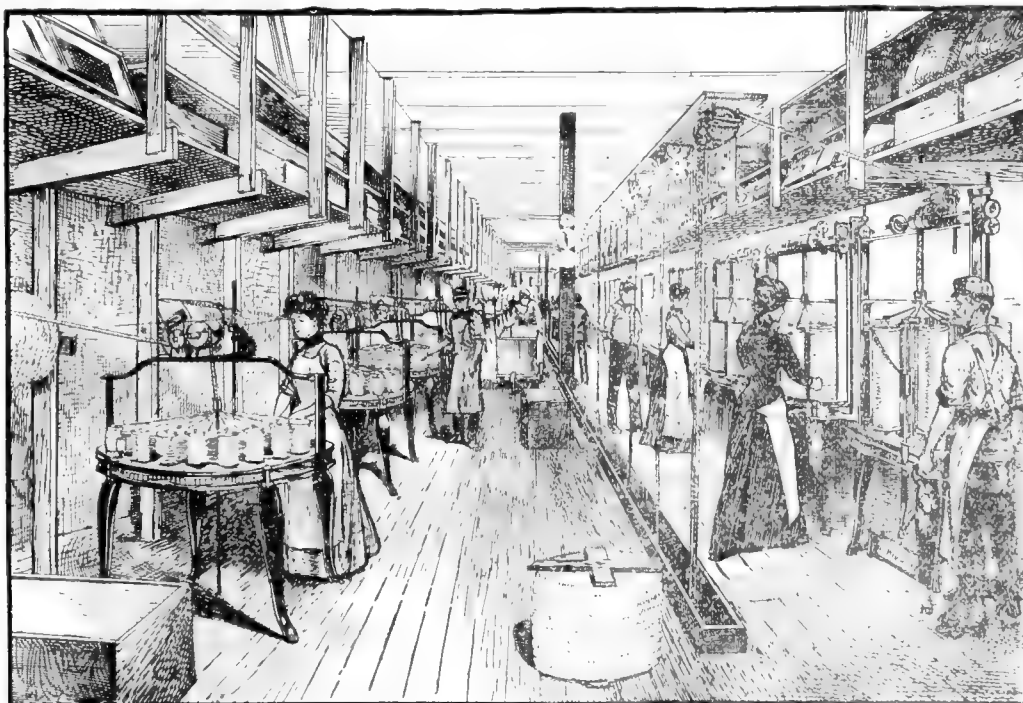
hemp, or soft rope, prepared for the purpose, kept supplied with melted tallow by means of a funnel over the cylinder lid.

The use of India-rubber and cotton fiber packing is of comparatively recent date. But, having engaged the ingenuity of some of the most ingenious inventors in rubber, and possessing decided merit, the increase in its use has been steady and rapid. Still what is known as flax packing yet retains a place of great importance in the trade.

The list of modern piston packings—not to mention any other—is practically illimitable, and their manufacture involves no end of mechanical devices, in addition to skill in compounding, in order that a packing specially adapted to any particular requirement may be produced. For example, special braiding machines have been made for enveloping rubber cores—round, square, or oval—with cotton or other fabrics; machines for braiding packings composed of flax throughout and lubricated with suitable materials, and so on. A concern with great experience in this field, and in connection with whose work a number of special machines have been developed, is the W. D. Allen Manufacturing Co. (Chicago). The illustration on this page gives a view of the interior of their piston packing factory, with a number of braiding machines in operation.

MACHINE FOR TEARING RUBBER WASTE.

THE Caoutchouc Separator Co., Hannover, Germany, have in operation a machine built on the lines of a recent patent granted to Herr Penther, which some German papers make a great deal of. A careful study of the claims, however, is surprising to one who is acquainted with rubber reclaiming on this side of the water. The machine in question tears rubber waste to pieces and by a current of air blows the fiber out of it, obtaining the product for so many years known as mechanically reclaimed rubber. It is perfectly possible that the machinery described may have some advantages in tearing the scrap to pieces more quickly, or may remove the finer fibers more completely, but that it can produce a better quality of mechanical reclaimed rubber is to be doubted. Anyhow, the general plan is as old as rubber reclaiming itself and the suggestion that the fiber after removal can be used for rubber mixings is not to be taken seriously.



PISTON PACKING FACTORY OF W. D. ALLEN MANUFACTURING CO.

ONE of the most important Bolivian rubber concessions has just been marketed in London, by American promoters, but details are not published.

RUBBER INTERESTS IN EUROPE.

GERMANY.

OUR Berlin correspondent, after a trip through a large part of the empire, writes to THE INDIA RUBBER WORLD that a market exists everywhere for American rubbers. "Every boot and shoe dealer," he writes, "should be supplied with, at least, two sample pairs of American rubbers, which it would pay the manufacturers to furnish gratis, as in nine cases out of ten orders would result. Whoever has once worn a good light American rubber, will always wear them if obtainable."

—The factory of the Internationale Galalith-Gesellschaft Hoff & Co. (Harburg a/d Elbe) is mentioned as having more than 100 employes. Galalith has recently been the subject of a decision by the United States customs authorities, who classify it with "unenumerated manufactured articles," the duty on which is 10 per cent. *ad valorem*.

GREAT BRITAIN

THE Dermatine Co., Limited, is a new company registered in London to acquire and carry on the business of the old company of the same name, in existence since 1889, and only lately wound up. The new company is capitalized at £35,000, of which £10,000 is in 7 per cent. cumulative shares.

—It cannot be sufficiently well recognized, says London *Financial News*, that in supporting the Continental Tyre and Rubber Co. motorists are really supporting a home industry, with nothing foreign about the factory but the name. The company have lately opened extensive new works at Willesden, and every tire constructed there is made by the most skilful workmen, under the supervision of experts.

—The trustees under the will of James Dick, of Glasgow, who died in 1902, leaving large bequests to charity, have been proceeded against at law by some of the next of kin who seek to inherit. It appears that the interest of the estate in the Gutta-percha factory of R. & J. Dick is now £296,930 [= \$1,445,110], and the trust assets held by the trustees at present amount to £607,114 [= \$2,954,520].

NOTES OF THE TIRE TRADE.

THE Healy Leather Tire Co. (Nos. 88-90 Gold street, New York) have sent Mr. Frank W. Wood on an extended business trip to the Western states in the interest of their tire. This tire is particularly adapted to the hard usage incident to the West, and for long touring trips. Mr. Wood started from Chicago and will include among his points of call all important commercial centers as far as the Pacific coast.

—All the cars made by the New Amsterdam Motor Co. (New York) will be equipped with the Goodyear Tire and Rubber Co.'s "Quick Detachable" tires and rims. The motor company stated recently that one of their demonstrating cars had covered about 5000 miles with a set of the Goodyear tires, and they believed the tires to be good for 2000 miles more.

Of the thirteen automobiles in the Glidden Cup contest that won perfect scores, nine were equipped with Goodrich tires. The distance covered was 1150 miles.

The trade is informed that the house of Michelin et Cie. control all patents on the detachable rim which attracted so

much attention at the recent Grand Prix race. The Michelin Products Selling Co., Inc. (New York), as exclusive American representatives of Michelin, will handle these rims in the United States.

—The Milwaukee Rubber Works Co. (Cudahy, Wisconsin) have established a number of new agencies for the sale of the Fawkes airless automobile tire, which is their specialty.

—The M. & M. Manufacturing Co. (Akron, Ohio) are marketing a retreading outfit for use in connection with worn automobile tires.

—The Turner endless solid tires sold by the Hartford Rubber Works Co. are made in widths from 2½ to 8 inches, for from 28 to 60 inch wheels. The larger sizes are made in the "twin" form.

—Mr. Walter Hale, of New York city, arrived lately in Paris after a 1200 mile tour in Spain and France in an American motor car (a "Cleveland"). His tires were American too—Dunlops—and he had only three punctures, arriving in Paris on the same tires he started out with, although the roads were bad over most of the route.

—The California Newmastic Tire Co. (No. 1040 South Main street, Los Angeles, California) are reported to have filled more than 2000 pneumatic motor tires with their Newmastic filling, to protect tires against punctures.

—Maine Elastic Tire Filling Co., July 21, 1906, under Maine laws; capital, \$10,000. Incorporators: J. P. Dodge (president), E. G. Haggett, and C. W. Berry, all of Portland, Maine.

—Ajax Standard Rubber Co. (New York) offer their automobile tires under a guarantee that they will run 5000 miles, and against blow outs, blistering, and rim cutting within six months from purchase.

—June was the best month in the history of the Swinchart Clincher Tire and Rubber Co., according to the reports made by the officers of the company. The Swinchart clincher tire is taking well with the trade and the company are working their plant to full capacity to keep up with the increased demand for their product.

—The Diamond Rubber Co. and the Stein Double Cushion Tire Co. have received during the month large shipments of cores and molds from the Williams Foundry and Machine Co., who are making a strong bid for this branch of the trade in this section. The latter company also filled good orders for the Indianapolis Rubber Co., Morgan & Wright, and the International A. & V. Tire Co.

THE United States have created a consulate general in the Congo Free State, as a means to keeping the Washington government better informed in regard to affairs in that country. The first incumbent of the office is Clarence Rice Slocum, of New York, recently consul at Saxe-Weimar, Germany.

RUBBER was expected to figure prominently at the third joint annual Agri-Horticultural Show of the Straits Settlements and Federated Malay States, at Singapore, on August 16-18. Eight prizes were offered for exhibits of Pará (*Hevea*) and three for exhibits of "rambong" (*Ficus*). The list embraces prizes for agricultural produce generally, fruits and flowers, live stock, and the products of a number of native industries.

NEWS OF THE AMERICAN RUBBER TRADE.

MORGAN & WRIGHT FACTORY READY.

THE new million dollar plant of Morgan & Wright, at Detroit, Michigan, was formally transferred to the company on August 3, by the constructors. The event was the occasion of a visit to Detroit of Charles H. Dale, president, and several other officials of the Rubber Goods Manufacturing Co., with which the Morgan & Wright company are affiliated. The factory was described and illustrated in THE INDIA RUBBER WORLD, May 1, 1906 (page 259). The work of construction was begun in June of last year. Fires were first lighted in the boilers on Washington's birthday. The operation of the factory was begun on a small scale about the first of June, increasing gradually until, at the time of the formal transfer, the removal from the Chicago plant had been about half completed. The removal will be completed shortly, when 1200 employees will be at work in the new factory.

VACATION TIME

THE Goodrich Rubber Man's Vacation has come again. (from The B. F. Goodrich Co., Akron, Ohio) and the "mid-summer hallucination" is all that the most daring flight of fancy could conceive. The peaceful scenes of camp life are invaded by alligators who, for the time, take up the habits as well as the haunts of humans. Fishing rods, swings, books, umbrellas, lunches and liquid refreshments are appropriated, as the rubber men look on aghast. However, those who "draw" a vacation picture are assured that "the order book is real." But it is only the uninitiated that need such assurance.

WHERE THE GRANT PATENT IS VALID.

AGAIN a decision has been rendered, bearing upon the validity of the solid tire patent issued to A. W. Grant—No. 554,675, of February 18, 1896. The decision is written by Judge Platt, in the United States circuit court for the southern district of New York, at Brooklyn, in a patent suit in the usual form, brought by The Consolidated Rubber Tire Co., alleging infringement by the Firestone Tire and Rubber Co.

Referring to previous decisions bearing upon this patent, the tenor of which has not been uniform, the present decision quotes from that of Judge Thomas, in the same court, in 1899. Judge Thomas, in sustaining the patent, was convinced that in a general way no tire prior to Grant really did what Grant's tire did; that it required Grant's specific combination of parts to accomplish his results; that therefore Grant did more than select and aggregate; he actually invented something.



SOLID TIRE.

[Withinside retaining wires made under the Grant patent]

Judge Thomas found, among other things, that the specific arrangement of channel and tire was such that the rubber tire when sharply compressed on either side had a tendency to rock, or tilt, in the channel iron, one wire acting as a pivot and the other as a retaining force, so that the tire would re-

seat itself. This he thought was functional and inherent in the device when made according to the specifications.

What follows is in the language of Judge Platt's late decision:

The circuit court of appeals, sixth circuit at Cincinnati in 1902, found the turning point in the case to be at that point. They concede that if the old parts selected from old combinations perform a new function, or operate in a new way to produce a new and beneficial result, enough will have appeared to constitute invention. They say that the rocking and reseating idea is not expressed in the specifications, and that it is not necessarily present in the device made under them, because the retaining wires must not be so tight that the wire would break or the rubber be cut before the tilting and reseating could take place, and must be loose enough to permit the rubber to move slightly; but not so loose as to permit the rubber to fall out of the rim of its own accord. This tension would depend upon the whim of the workman. The specifications being silent as to this function and the proper tension of the wires to permit the function, it is not an inherent characteristic of the device as explained.

The following is a verbatim segment of the opinion:

"But if the retaining wires were tightened to their full tension when their ends were welded or otherwise united, this capacity to rise or yield to the excessive strain applied to the rubber is not known to exist."

The court practically admits that if the tilting movement had been mentioned or even if a direction could be found in the specifications that the wires should be applied at the proper tension, it would be enough; but taking the situation as they found it, they were convinced that the patent was "void for want of patentable novelty," and dismissed the bill.

In the suit at bar the complainants insist that they have settled by ample proof the question of the tipping capacity of the Grant tire. They claim to have shown beyond dispute that the rocking or tilting quality is inherent in the Grant construction, and that it cannot be destroyed by the tightness of the wires, but will be present and operative when the last extremity of tension prior to breaking, has been reached. They say that defendant's expert clearly concedes the actual existence of that mode of operation in the Grant patent which was the turning point in the sixth circuit appellate decision.

The court finds the patent in suit undoubtedly valid and gives a decree for the complainant.

TRADE NEWS NOTES.

THE New York office of The National India Rubber Co. (Bristol, Rhode Island) is now located at No. 42 Broadway. The company is represented there as to rubber insulated wires and cables by Henry D. Stanley and as to druggists' sundries, hose, packing, and clothing by Henry D. Archer.

=There was a fire recently in the coat making shop of the Goodyear's India Rubber Glove Manufacturing Co. (Naugatuck, Connecticut) which, it is believed, would have proved serious but for the excellent service rendered by the sprinkler system with which the plant is equipped.

=The Maine Rubber Shoe Co., at Portland, incorporated in 1904 to conduct a rubber footwear jobbing trade, have been succeeded by the Blake & Wheeler Shoe Co., composed of F. H. Blake and George D. Wheeler. The house will continue to make a specialty of "Hood" and "Old Colony" rubbers, besides adding leather shoes.

The final meeting of the G & J Tire Association—the so called "tire pool," the dissolution of which has been mentioned before in THE INDIA RUBBER WORLD—was held in New York on August 7, when steps were taken to wind up its affairs. The date of the dissolution is September 1.

=DeVoll Tire Co., August 6, 1906, under New Jersey laws; authorized capital \$250,000. Incorporators: Charles H. DeVoll, No. 146 West Twenty-third street, New York; Henry S. Howland, Montclair, N. J.; John J. Hallerman, Flushing, N. Y.

=The annual two weeks' shutdown of the Woonsocket Rubber Co. began on August 10. Meanwhile some of the arctic makers from the "Alice" mill of that company were employed on a hurry order for arctics at the Banigan rubber factory, at Olneyville, Rhode Island.

=The factories of the Goodyear's India Rubber Glove Manufacturing Co., at Naugatuck, Conn., resumed work on August 13, after the summer shutdown.

=The "Michelin Touring Card" issued by the Michelin Products Selling Co., Inc. (New York), over the signature of Manager E. D. Winans, introduces the bearer to Michelin agents wherever found—and they certainly are numerous—with a request that the courtesies of the agencies be extended to him. The cards, of course, are designed for users of Michelin tires.

=The annual picnic tendered by The Canadian Rubber Co. of Montreal, Limited, to its employes, on Saturday, July 7, was attended by 1600. Two steamers chartered for the occasion were lashed together and proceeded on the St. Lawrence abreast to Berthier, where the picnic was given. President Stephens and the leading members of the official staff attended and it was an enjoyable affair throughout.

=The Trenton Scrap Rubber Supply Co. (Trenton N. J.), reports business good. The firm is composed of H. Friedman and I. Fineburg. The warehouse of the company is at Nos. 49-51 Daymond street, South Trenton. It has been established but eight months, but is already shipping rubber scrap at a liberal rate.

=A change has been made in the official list of Aiton Machine Co., manufacturers of rubber factory machinery, New York and Harrison, N. J. Mr. Arthur S. Beves, formerly secretary of the company, becomes president, Mr. Thomas A. Aiton remains vice president, and Mr. John S. Showell has been elected secretary.

=The inventory and appraisal of the property of the Falcon Rubber Co. (New Haven, Connecticut), as filed by Receiver Sherman F. Foote show that the assets of the company amount to \$35,551. The assets exceed the liabilities, and the receiver will sell the property and wind up the affairs of the concern.

The Fisk Rubber Co. (Chicopee Falls, Massachusetts) continue to make additions to their tire factory. The latest is a two story building 50 x 125 feet, the first floor of which is to be used as a shipping room, and the second for additional offices and a buffet dining room for the use of the company's officers at luncheon.

The Rubber It material mentioned in the last INDIA RUBBER WORLD [page 372] as having been applied to belting, is also being used in steam hose, suction hose, air brake hose, garden hose, packings and other mechanical rubber goods. The manufacturers are The McIlroy Belting and Hose Co. Nos. 19 & 21 South Canal street Chicago.

=The sale is reported of two former rubber factory plants. That of the W. H. Conant Gossamer Rubber Co., at South Framingham, Massachusetts, was sold to W. H. Long, who probably will erect a leather shoe factory on the site. The other is that of the Conant Rubber Co., at the same place, a concern which went into the hands of receivers in the summer of 1905. The latter plant will be devoted to rubber reclaiming, by the Rickaby Rubber Manufacturing Co., headed by Frank B. Rickaby, formerly of Boston and more recently connected with the rubber trade at Akron, Ohio.

=Standard Rubber Co. (Trenton, New Jersey) have opened at Syracuse, New York, a branch supply house for mechanical rubber goods, with a specialty of mill and plumbers' supplies, to be conducted under the name Consolidated Supply Co. J. D. Brady is president, J. W. Teller, vice president; and John M. Wright secretary and treasurer. Mr. Brady will visit Syracuse weekly in the interest of the business.

=The regular quarterly dividend of 1 3/4 per cent. on the preferred shares of the Rubber Goods Manufacturing Co. was declared at a meeting of the directors held on August 1. It is payable September 15 to shareholders of record September 8.

=Mr. V. B. Lang, lately elected a vice president of the Hartford Rubber Works Co., has gone to Hartford to assume that post. During the past year he has been at Detroit, Michigan, in charge of the construction there of the new factory of Morgan & Wright.

=Rubberhide Co., No. 212 Essex street, Boston, are marketing rubber boots and shoes with leather soles made under patents owned by the company. Their factory is at Randolph, Mass. The rubbers they use are manufactured by the Goodyear's India Rubber Glove Manufacturing Co.

=The town of Glen Cove, Long Island, has been canvassed lately by W. L. Stauffel, some time interested in the rubber footwear manufacture at Setauket, with a view to securing capital for a \$250,000 rubber shoe factory in the former place.

=Grieb Rubber Co., Inc. (Philadelphia), notify the trade not to heed notices which have been sent out alleging an infringement by them of a patent on a rubber heel, containing cotton duck and fiber. The company state that they will protect their customers in the sale of their "Rival" heels.

=Sears, Roebuck & Co. (Chicago), reputed to be the largest firm in the world in the mail order trade, are reported to have placed with the United States Rubber Co. a single order for \$750,000 worth of rubber footwear. Sears, Roebuck & Co. are incorporated under the laws of New York, with \$40,000,000 capital authorized. Their sales in 1905 reached \$58,708,526.

=The Luzerne Rubber Co. (Trenton, New Jersey) have filed plans for an addition to their factory, to cost \$5000.

=The General Rubber Co. have declared a dividend, for the last business year, of 4 per cent., on their capital stock of \$3,000,000. The company is a purchasing concern, the shares of which are held by the United States Rubber Co. and the Rubber Goods Manufacturing Co.

=Cards are out for the wedding, on September 5, of Mr. James M. S. Carroll, of the Canadian Rubber Co. of Montreal, Limited, and Miss Mary Alberta Cameron, daughter of Mr. and Mrs. Allan Cameron, of Montreal, in the Church of St. James the Apostle.

=The Marvel Rubber Co. has been reorganized, and under the superintendency of Maurice C. Clark is manufacturing molded rubber shoes in one of the buildings of the National India Rubber Co. (Bristol, Rhode Island). Mr. Clark has been experimenting for nearly a year with the details of placing the cloth lining in the shoes when they are molded, and in getting out samples, and the company is now producing such shoes in several styles, including lumbermen's.

=The Dyson Rubber Co. plant, at Trenton, New Jersey, has been purchased by Philip McGrory, of that city, who is equipping it with additional machinery, with a view, it is understood, to selling or leasing the mill. There is a brick building 40 × 160 feet, on a lot 100 × 180 feet.

=International Rubber Co., selling agent for International A. & V. Tire Co. (Milltown, New Jersey), have increased their capital stock from \$100,000 to \$200,000 and filed a certificate to that effect with the secretary of state at Trenton, N. J.

=From the Globe Rubber Works (Boston) an attractive desk calendar is being distributed among friends and patrons. The background is of crystalloid, the corners being tipped with silver, while the perpetual calendar which is placed just below the firm's advertisement, is also framed in silver. It is neat, novel, and convenient.

=The Kansas Rubber Co. (Olathe, Kansas), it is reported, will engage extensively in heavy tire repairs, but will not for the present make tires.

MR. KEARNS'S VISIT TO THE STATES.

MR. JOHN KEARNS, of Chicopee Falls, Massachusetts, who for six years past has been at Melbourne as factory superintendent of the Dunlop Pneumatic Tyre Co. of Australia, Limited, visited his home during the month in consequence of the recent death of his son Killiam in an athletic contest in which he represented the Chicopee high school. Mr. Kearns returned to Australia by way of Europe. The Melbourne factory, by the way, has proved very successful, now employing 1400 hands. Last year 200,000 pairs of tires were made, and 250,000 inner tubes. The company manufacture all kinds of mechanical goods and also waterproof clothing. An important business is done in diving outfits for use in the pearl fisheries.

ASSIGNMENT OF THE THERMALITE CO.

THE Thermalite Co., manufacturers of self heating water bags, at No. 161 Lafayette street, New York, made an assignment on August 22 to Leslie J. Tompkins. The company was incorporated on February 28, 1905, with a capital stock of \$50,000, which was increased to \$100,000 in January, 1906, when the company was reorganized with Burton L. Bolton, of Coldwater, Mich., as president and Charles H. Dickinson, also of Coldwater, as treasurer. Albert S. Oglesby, attorney for the company, said that it had not been making any money, some of the creditors threatened suit, and the assignment was decided upon so that all creditors could be protected alike. The company had lost \$2000 or \$3000 worth of goods in the San Francisco fire, on which there was no insurance. The liabilities are \$15,000, and nominal assets \$10,000, not including patents, the value of which are not known. The company was formed to acquire the American rights under patents held by the Deutsche Thermaphor-Aktiengesellschaft, and is understood not to have completed payment for the same. The product was described in THE INDIA RUBBER WORLD, June 1, 1905 (page 305).

OUTING OF TYER RUBBER CO.'S EMPLOYEES.

THE annual outing of the employes of Tyer Rubber Co. (Andover, Massachusetts) was held on Saturday, August 4. About 400 took advantage of the low rates and special electric cars provided, to spend a day at Revere beach and take in the wonders of "Wonderland." The five special cars left at 7.30 A. M., filled with people and enthusiasm; and from then until the return at midnight, the day was one of continuous pleasure. The arrangements this year were again in the hands of the same efficient committee, consisting of Andrew McTiernan, Frederick Hulme, and E. R. Barton, and it was the unanimous opinion that the 1906 outing was a success.

PERSONAL MENTION.

THE American committee formed to take part in the celebration of the Perkin Jubilee—the fiftieth anniversary of the epoch making discovery by William Henry Perkin of the dyestuff "mauve" by which the foundation was laid for the coal tar industry and a great stimulus given to the study of chemistry—embraces the names of Maximilian Toch, LL.B., of Toch Brothers, manufacturing chemists, and Durand Woodman, PH. D., analytical chemist both of New York city and both widely known to the rubber trade.

=Mr. Low Gek Sing, of Singapore and Bangkok, whose visit to the United States was mentioned in our May 1 issue, sends greetings to the INDIA RUBBER WORLD from Yokohama.

=One of the legatees of Christopher Meyer, the wealthy rubber manufacturer who died in 1888, was a granddaughter, Helen Rowena, only child of Howard S. Meyer, deceased. The will directed that \$100,000 be invested for her benefit until she should reach the age of 21, her mother being named as trustee. The trust was closed recently, with the approval of the orphans' court at New Brunswick, New Jersey, when there was due Miss Meyer \$203,823.19.

=Mr. Charles C. Goodrich, assistant general superintendent of The B. F. Goodrich Co., has been elected as a trustee, to serve three years, of Buchtel College, at Akron, one of the foremost institutions of learning in Ohio.

NEW INCORPORATIONS.

BERNARD Manufacturing Co., June 11, 1906, under New York laws; capital, \$50,000. To make and deal in heat storing and retaining bags of rubber, to be used instead of hot water bags. Henry R. Bernard, president; M. A. Bernard, secretary; William McCory, vice president. Office: No. 69 Murray street, New York.

=Leon Mann Co., July 19, 1906, under New York laws, capital authorized, \$200,000. To make and sell rain coats, clothing, and wearing apparel. Leon Mann, president; M. Koppelman, vice president; Albert Rosenthal, secretary. Office: No. 699 Broadway, New York. To acquire and continue the business of the Mann Summer Clothing Co., Leon Mann proprietor, and the business of Leon Mann.

=The Goodyear Rubber Insulating Co., July 23, 1906, under New York laws; capital, \$100,000. To manufacture insulated wire and rubber goods. Incorporators: F. S. Minott, Mount Kisco, N. Y.; T. W. Blake, New Haven, Conn.; W. A. Minott, New York city.

=Michelin Tire Repair Works, July 13, 1906, under New Jersey laws; capital, \$10,000. Incorporators: Robert L. Eaton, Albert J. de Raismes, Elizabeth Wolfskeil, and Henry F. Wolfskeil, all of Elizabeth, N. J.

THE RUBBER TRADE AT AKRON.

BY A RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Within the next month or six weeks the Faultless Rubber Co. will merge its two plants, the one located in Akron and the other located in Ashland, into one big plant. For some time past the merger plan has been under way but the officers of the company are undecided where to locate. Both Akron and Ashland are under consideration. A site for a large tract of land in the vicinity of the Goodyear Tire and Rubber company's plant in East Akron has been selected and an option has been taken on the property. Ashland has also offered the company a site for its plant if it will remove to that city. Some time ago the site upon which the company's plant in Akron now stands was optioned to a railroad company and on this account the company is seeking to make the move, not knowing when the land will be purchased by the railroad company and it will be forced to vacate the premises. Ashland is anxious to retain the plant. The stumbling block, however, in effecting the combination involves two propositions. The first is that the company has the bulk of the heavy machinery which was installed at a cost of several thousand dollars recently, in the Ashland plant, while the solution of the labor question is in Akron. The company since operating its Ashland plant has experienced difficulty in securing the required amount of help there. The past year has been one of the best, if not the best, this company has enjoyed since its organization.

Mr. Edwin C. Shaw, general superintendent of The B. F. Goodrich Co., has returned from an auto tour of the New England states, on which he had been absent since the first of April.

The Mechanical Rubber Co., of Cleveland, was made a defendant in the suit filed in Summit county by Ohio C. Barber, the match king, against the C. Aultman Co., of Canton, Ohio. In this action Mr. Barber seeks an accounting for himself and other creditors of the company of about \$20,000, which is represented in stock of the Whitman & Barnes Manufacturing Co., held by the Aultman company before it became defunct. The Mechanical Rubber Co. are interested in the litigation and filed a motion in the courts to be made a party defendant to the suit.

The Republic Rubber Co., of Youngstown, is enjoying some of the prosperity resulting from the large orders placed by the railroad companies for new cars and equipment. A report from this plant is to the effect that large orders for air brakes, steam hose, and mechanical rubber goods have been received.

The Mechanical Rubber Co., of Cleveland, is represented by one of the strongest amateur base ball teams in the state. The employes of the company comprising the team have received liberal support during the season from the management.

The annual picnic of employes of The B. F. Goodrich Co., the Alkali Rubber Co., and the American Hard Rubber Co., at Silver Lake, on August 3, was attended by more than 10,000 employes, their families, and friends. The three companies supplied all their employes with tickets for themselves and their families for car fare, admission, dancing, boat riding, and all the other amusements afforded. A fine

program of sports was given during the day. One interesting feature was a guessing match over the exact number of words written on a postal card.

Experiments are being made by several of the large factories in Akron looking toward the perfection of a hard rubber tile. The past several months have witnessed the fact that rubber tiling is fast growing in favor for different uses. This has caused the local enterprising concerns to prepare and bid for their share of the output and place upon the market some new ideas in rubber tiling. As a result two plants promise within a short time to put on the market a tile which they believe will surpass the present product. The adoption of the rubber tile for equipping steam coaches on railway trains will according to local manufacturers bring rubber tiling into a greatly increased use throughout the United States.

The eighth annual picnic of the Cleveland Rubber Co. was held at Silver Lake Park, near Akron, on August 8. Over 2000 employes and their families attended. The company furnished the amusements offered at the park free of charge.

James A. Swinehart, president of the Swinehart Clincher Tire and Rubber Co., and inventor of the now famous side wire system of fastening on rubber tires, has patented two new tires—one for a solid rubber tire and another for a pneumatic tire. The Swinehart Clincher Tire and Rubber Co. will manufacture both new patents in connection with their clincher tire.

The annual meeting of the officials, branch managers, salesmen, and heads of departments of the Firestone Tire and Rubber Co. was held at the office of the company on August 17-18. At noon on the first day luncheon was served at the plant by the company. Another session was held in the afternoon and in the evening all of the managers and salesmen were taken to the Portage Country Club, where dinner was served them, after which they were entertained at Lakeside Park Casino. Covers were laid for 30, and H. S. Firestone, president of the company, acted as toastmaster, and proved a genial host. The past year has been very successful with the company, showing increased sales in all departments, and the prospects for the coming year are bright.

L. A. Allwine and L. C. Warden, of Lorain, Ohio, have been granted a patent on a new vehicle wheel originated and designed by Mr. Allwine. The wheel is intended especially for automobiles and is expected to do away with the pneumatic tire. On the contrary the tire is to be of solid rubber while the wheel is fitted with a non circular pneumatic hub. This hub acts as a cushion, effectively doing away with the jar and producing virtually the same effect as a pneumatic tire. The hub according to the patent can be of any shape other than circular. In the drawings made by the inventor the hub is to be elliptical in shape.

G. A. Shaw, of Akron, has applied for a patent on a new non puncturable automobile tire which if proves successful promises to greatly decrease the cost of repairs. The new tire is equipped with an inverted rubber casing and rubber inner tube. For the tread of the tire a steel rim is fastened to the outer casing by means of the clincher system. The new tire makes the inner tube easy of access for repair and for substituting new ones. The steel tread, it is claimed, will increase the life of the tire nearly 100 per cent., while the cost will be about the same as the present automobile tire.

THE PACIFIC COAST RUBBER TRADE.

BY A RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD. The various rubber houses that were located in San Francisco at the time of the great fire, have almost without an exception started in business again either here, or across the bay at Oakland. Those firms that were fortunate enough to have branch houses in other Coast cities, suffered but little loss of business as all orders were able to be filled, and stocks generally were large enough to meet immediate demands. The firms that had to get all their supplies from the East were really out of business for some time as freight shipments were so slow, and even now there is difficulty in getting supplies here on time, some goods that would ordinarily have been received by July 1, just now coming in. The demand for rubber goods of all descriptions is very heavy, owing to the many new enterprises starting up calling for this class of goods, as well as the rapidly growing country trade. The houses that have started in business again in San Francisco are carrying just as light stocks as they can and still supply customers, as the buildings they are now compelled to occupy are as a rule temporary affairs.

* * *

THE Diamond Rubber Co., now located at No. 110 Telegraph avenue, Oakland, has one of the finest stores of any of the firms that were burned out at San Francisco. They have a large building in the center of the business part of the city. While it is the intention of the firm to return to San Francisco, it does not expect to move until permanent quarters can be secured and the present heavy expenses of operating a store there are lessened. C. E. Mathewson, the manager of the Diamond company's interests here, has left for the East to visit the home office, accompanied by F. O. Nelson and Donald McKay of the same company, and it will be several weeks before they return. Mr. Albright has just returned from a business trip to Tonopah and the new mining camps in Nevada, where he landed good orders for tires and had a chance to see the rough usage to which articles of this class are subjected in that country. He states that the life of the ordinary automobile tire in the mining region is about one month, or about 2000 miles, and considering the nature of the roads he considers this excellent service. The most of the travel is done after nightfall as the heat in the desert is intense, reaching from 120 to 130 degrees in the shade. The effect of this heat on automobile tires can be imagined, and as very often no attempt is made to follow the roads, but the machine is driven over the rocks and sage brush, it is little wonder that tires are not longer lived. Time is the chief consideration there instead of money, and when a tire is blown up or badly punctured, no attempt is made to repair it but a new one is put in place. The road between Tonopah and Goldfields is strewn with these, an interesting comparison with the grewsome bones that lined the roads to the old mining camps. The garages in Tonopah are said to compare favorably in size with those of any of the large cities and large stocks of rubber tires are carried.

* * *

THE Plant Rubber and Supply Co. are now comfortably housed at No. 32 California street, and while no attempt is being made to keep a large stock on hand, a very complete line of the specialties they handle is being carried. At the

present time they are carrying only manufactured products and all orders for mold work are turned over to other firms. It is not likely that the factory will be established here again, in fact a location across the bay is now being sought. Mr. Plant has just returned from a trip to the East and now has the firm business under his personal supervision. H. M. Groszmeier, who was formerly a salesman for this firm, is now acting in the capacity of city salesman, taking the place of R. J. Hammond, who has gone into the shipping business.

* * *

THE Goodyear Rubber Co. now has a factory in operation at Nos. 218-220 Spear street, and the office is also located there temporarily. Mr. Richard H. Pease, the manager of the firm's Pacific coast interests, states that a temporary building is now being erected at Nos. 573-579 Market street, where it has been located for the past 35 years, and that after Sept. 1st, the offices and sales room will be there. Here the same complete stock of rubber goods will be carried as formerly, including the products of the United States Rubber Co., the Wales-Goodyear company, and the Woonsocket Rubber Co. Since the fire the firm's California trade has been handled through the Portland store and the business has not suffered any interruption.

* * *

THE Gorham Rubber Co. now has its business moving as steadily as before the fire and is able to fill all orders from the San Francisco and Oakland stores. The factory is now in running order at No. 105 Fremont street, San Francisco, and a stock is carried there sufficient to supply the city trade. At Fourth and Washington streets Oakland, is the main store of this company, and two warehouses are also located in that city. In San Francisco a five story building is being erected on Mission street, near the old location, and as the work is now well under way it is expected that it will be ready for occupancy by January. Mr. Parish, of this company, states that business is now heavier than ever, orders for the first six months of the present year being fully 20 per cent. greater than for the corresponding period last year. The foreign trade is also heavy and it is asserted that San Francisco houses are now receiving orders that would have gone elsewhere before the fire, showing the kindnesses that are being showered upon her from every quarter of the globe.

* * *

THE Pacific Coast Rubber Co. has done quite a bit of moving since the fire, but announces that it is now permanently settled at Nos. 138-140 First street, around the corner from the old location. The large building erected at No. 11 Hawthorne street will be utilized as a warehouse and is now well stocked with the lines of rubber goods that this firm carries. Mr. H. C. Norton, manager of the San Francisco store, has just returned from a short visit to the Portland store, and reports that a great business is being done there as well as here. Owing to the condition of the streets in San Francisco he thinks that there will be a very heavy local demand for rubber boots and shoes.

* * *

ALTHOUGH Barton, Squires, Byrne, Inc. have been in business only about eight months, they are now doing a very large business and are more than satisfied with results. After the fire they secured offices in the Ferry Postoffice building, and later moved to No. 27 Commercial street

where they have a good sized store. A factory 50 x 80 feet has been erected at No. 588 Hampshire street and is now in operation working on ring packing especially. Mr. W. P. Squires is an expert on this class of goods, having introduced the Garlock goods on the Coast, and having been with the Pacific Coast Rubber Co. for several years. The factory is most complete and the only wirewinding machine on the Coast has just been installed.

The New York Belting and Packing Co., Limited, are still located at No. 918 Broadway, Oakland, but intend to return to San Francisco as soon as a suitable location can be secured.

The Graton & Knight Manufacturing Co. are now located at No. 2806 Mission street, San Francisco, and will probably remain there for the winter.

MEETING OF THE FIRESTONE COMPANY.

THE annual stockholders' meeting of the Firestone Tire and Rubber Co. was held at the company's general offices in Akron, Ohio, on August 15. The annual statement showed a large increase in volume of business for the last fiscal year, during which period the plant capacity has been tripled and several new branches established. The financial report was a very satisfactory one to the stockholders and the year's outlook shown to be flattering. The following directors were reelected: H. S. Firestone, Will Christy, A. C. Miller, R. J. Firestone, and L. E. Sisler. The Directors met and reelected the following officers:

President and General Manager—H. S. FIRESTONE.
Vice President—WILL CHRISTY.
Secretary—S. G. CARRHUFF.
Treasurer—L. E. SISLER.

The annual Firestone convention of branch managers and salesmen held an enthusiastic session on August 18. The Firestone company is an enterprise owned and conducted by men under middle life and it is learned from those in position to know, that there is not a "stick of dead timber" on the payroll. As to what action was taken at the convention the officials were averse to making any definite statement. It can be stated, however, that there will be some news of interest to tire users in the near future.

STOUGHTON RUBBER CO.

The board of trustees of the Stoughton Rubber Co. (Stoughton, Mass.) has been increased from five to seven members, and at present consists of the following: Ira F. Burnham (president and general manager), Charles A. Hunter (vice president), Ellsworth H. Hicks (vice president and assistant manager—clothing department), Thomas J. Skinner (secretary and treasurer), Lester Leland, John J. Watson, Jr., Homer E. Sawyer. The company are making additions to the factory buildings with a view to largely increasing their capacity.

NEW YORK STOCK EXCHANGE TRANSACTIONS.

UNITED States Rubber Co. :

DATES	Common.			Preferred.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending July 21	6,450	42	39 ³ / ₈	1,000	107 ¹ / ₂	105 ¹ / ₂
Week ending July 28	5,065	44 ¹ / ₄	42 ¹ / ₂	800	106 ¹ / ₂	106 ¹ / ₂
Week ending Aug. 4	5,315	46	43 ¹ / ₂	1,300	109	106 ¹ / ₄
Week ending Aug. 11	2,100	45	44	450	107 ¹ / ₂	107
Week ending Aug. 18	2,890	46	44 ³ / ₈	1,000	108 ³ / ₄	108
Week ending Aug. 25	8,205	48 ³ / ₈	45 ¹ / ₄	1,450	109 ³ / ₈	107

SECOND PREFERRED.

WEEK ending—July 21	July 28.	Aug. 4.	Aug. 11.	Aug. 25.
Sales.....	25	1300	40	100
High.....	78	80 ⁷ / ₈	80 ¹ / ₂	79
Low.....	78	79 ¹ / ₂	80 ³ / ₈	79



MEMBERS OF THE FIRESTONE CONVENTION.

FARREL Foundry and Machine Co. announce the purchase of the drawings, patterns, and good will of the National Water Tube Boiler Co. (New Brunswick, N. J.) for the rubber machinery they formerly manufactured, as they are now going out of that line of business.

"THROUGH Frisco's Furnace" is the title of an attractive and interesting brochure issued by Joseph Dixon Crucible Co. (Jersey City, New Jersey), in relation to the excellent manner in which buildings treated with Dixon's Silica-Graphite Paint withstood the test of earthquake and flames in the recent disaster which visited San Francisco. Some of the experiences related are really remarkable.

REVIEW OF THE CRUDE RUBBER MARKET.

PRICES are on a somewhat higher level than one month ago, after having fallen a trifle in the earlier days of the month. An advance in quotations was constantly looked for by sellers, in view of the approach of the season for the fall activity in the industry, but consumers seemed inclined to wait to see if a further decline would not develop. It has been only within the past few days, however, that a firmer condition has prevailed. There has been no actual shortage of rubber in the market at any time in the month. In fact, there are not wanting members of the trade, on both sides of the Atlantic, who entertain the belief that the amount of available material is greater than is revealed in the official statistics. But this is something that can always be asserted without the risk of bringing out a convincing contradiction. The fact that receipts at Pará have been somewhat larger than usual since July 1, the beginning of the new crop year, has not been without its effect on prices.

The result of the last Antwerp sale, on August 4, when about 390 tons were offered, was very irregular. Some lots were sold at an advance on the estimations and others fell below, and at this writing it is difficult to figure out whether an advance or a decline was scored.

Following is a statement of prices of Pará grades, one year ago, one month ago, and on August 27—this date:

PARÁ.	September 1, '05.	August 1, '06.	August 27.
Islands, fine, new.....	125@126	118@119	119@120
Islands, fine, old.....	none here	none here	none here
Upriver, fine, new.....	128@129	123@124	124@125
Upriver, fine, old.....	131@132	124@125	126@127
Islands, coarse, new.....	70@71	64½@65	66½@67
Islands, coarse, old.....	none here	none here	none here
Upriver, coarse, new.....	90@91	90@91	91½@92
Upriver, coarse, old.....	none here	none here	none here
Caucho (Peruvian) sheet....	71@72	72@73	75@76
Caucho (Peruvian) ball....	84@85	86@87	90@91
Ceylon (Plantation) fine sheet.....	148@149	142@143	
AFRICAN.			
Sierra Leone, 1st qual. 102	@103		
Massai, red.....	@103		
Benguella.....	78 @79		
Cameroon ball.....	76 @77		
Accra flake.....	21½@22		
Lopori ball, prime.....	114 @115		
Lopori strip, prime.....	103 @104		
Madagascar, pinky.....	93 @94		
Ikelumba.....	115 @116		
Soudan niggers.....	95 @96		
CENTRALS			
Esmeralda, sausage.....	88@89		
Guayaquil, strip.....	73@74		
Nicaragua, scrap.....	84@85		
Panama, slab.....	63@64		
Mexican, scrap.....	88@89		
Mexican, slab.....	62@63		
Mangabeira, sheet.....	69@70		
Guayule.....	40@45		
EAST INDIAN.			
Assam.....	92@93		
Borneo.....	41@48		

Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers for car-load lots in cents per pound—are somewhat lighter:

Old Rubber Boots and Shoes.....	Domestic.....	9 @9½
Do.....	Foreign.....	8½ @8¼
Pneumatic Bicycle Tires.....		7½ @7¼
Solid Rubber Wagon and Carriage Tires.....		8½ @8¼
White Trimmed Rubber.....		10½ @11
Heavy Black Rubber.....		5¼ @5½
Air Brake Hose.....		3¼ @3½
Fire and Large Hose.....		27 @3
Garden Hose.....		21½ @2¼
Matting.....		1¼ @1½

Late Pará cables quote:

	Per Kilo		Per Kilo
Islands, fine.....	58300	Upriver, fine.....	68300
Islands, coarse.....	28400	Upriver, coarse.....	48200
Exchange, 16' <i>ad.</i>			

Exchange, 167½d.

Last Manáos advices:

Upriver, fine.....	68250	Upriver, coarse.....	38750
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Exchange, 167½d.

Statistics of Para Rubber (Excluding Caucho).

NEW YORK.				
	Fine and Medium	Coarse.	Total. 1906.	Total. 1905.
Stocks, June 30.....	171	20 =	191	594
Arrivals, July.....	618	362 =	980	297
Aggregating.....	789	382 =	1171	891
Deliveries, July.....	649	375 =	1024	474
Stocks, July 31.....	140	7 =	147	417
PARÁ.				
	1906.	1905.	1904.	1906.
Stocks, June 30.....	30	160	175	925
Arrivals, July.....	1300	1420	1010	400
Aggregating.....	1330	1580	1185	1305
Deliveries, July.....	954	1340	870	515
Stocks, July 31.....	376	240	315	790
ENGLAND.				
	1906.	1905.	1904.	1906.
Stocks, June 30.....	30	160	175	925
Arrivals, July.....	1300	1420	1010	400
Aggregating.....	1330	1580	1185	1305
Deliveries, July.....	954	1340	870	515
Stocks, July 31.....	376	240	315	790

	1906.	1905.	1904.
World's visible supply, July 31.....	1841	1741	1281
Para receipts, July 1 to July 31.....	1300	1420	1010
Para Receipts of Caucho, same dates.....	350	170	230
Afloat from Pará to United States, July 31..	193	94	166
Afloat from Pará to Europe, July 31.....	335	600	241

Antwerp.

ANTWERP RUBBER STATISTICS FOR JULY.

DETAILS.	1906.	1905.	1904.	1903.	1902.
Stocks, July 31.....	618,834	582,980	689,515	487,999	681,670
Arrivals in July.....	328,799	449,085	639,157	315,406	692,836
Congo sorts.....	247,197	324,093	530,150	324,000	545,200
Other sorts.....	81,602	124,992	108,997	11,346	47,636
Aggregating.....	947,633	1,032,071	1,328,672	853,405	1,274,506
Sales in July.....	416,192	212,512	455,926	475,878	584,734
Stocks, July 31.....	531,441	819,559	872,740	377,527	689,772
Arrivals since Jan. 1.....	3,355,605	3,210,284	3,464,917	2,979,632	3,237,614
Congo sorts.....	2,800,835	2,530,030	2,847,591	2,611,112	3,001,170
Other sorts.....	794,767	674,254	617,326	358,420	236,444
Sales since Jan. 1.....	3,550,351	2,932,081	3,203,071	3,259,910	2,962,581

ANTWERP RUBBER ARRIVALS.

JULY 31.—By the *Philippeville*, from the Congo:

Bunge & Co. (Société Generale Africaine) kilos	121,000
Do.....	10,000
Do..... (Société A B I R)	12,000
Do..... (Chemins de fer Grand Laes)	700
Do..... (Comité Special Katanga)	5,300
Société Coloniale Anversoise (Cie du Kasai)	102,000
Do.....	9,000
Do..... (Sud Kamerun)	8,500
Do..... (Lulonga)	1,200
Do..... (Belge du Haut Congo)	5,000
Do.....	3,500
Cie. Commerciale des Colonies (La Haut Sangha)	5,000
Do..... (Cie de l'N Keme et l'N Keni)	4,600
Do..... (Commerciale & Coloniale de la Kadei)	
Société Générale de Commerce (Société "La Lo-bay")	2,700
	20,000

Comptoir Commercial Congolais	5,000
M. S. Cols	1,400
Société Equatoriale Congolaise (Société l'Élé- mbe)	1,800
L. & W. Van de Velde	5,000 323,700

Rubber Receipts at Manaos.

DURING June and twelve months of the crop season for three years [courtesy of Messrs. Scholtz & Co.] :

FROM	1906	JUNE 1-1905	1904	1905-06	JULY-JUNE 1905	1903-04
Rio Purús Acre ... tons	249	123	30	6070	6243	5913
Rio Madeira	148	106	40	2972	2978	2681
Rio Jurú	245	33	34	3988	3944	3678
Rio Javary Iquitos....	21	26	54	2866	2618	2273
Rio Solimões	16	21	9	1050	903	837
Rio Negro	35	31	17	702	787	485
Total	714	349	184	18554	17473	15867
Cauchó	482	327	257	5099	4913	4957
Total	1196	667	441	23653	22386	19924

London.

RUBBER AUCTION.

AUGUST 3 Market quiet but steady during the week and not much business done. Sales of fine hard spot at 5s. 2d; forward at 5s. 2 1/4d. Medium grades, in quiet demand and not much sold. Maniçoba: 212 bales offered and bought in. Madagascar: 275 packages offered and 11 sold; white waxy ball 3s. 9d to 3s. 9 1/4d.; mixed pinky and Majunga 3s. 6d to 3s. 3d. Tonquin: 4 packages sold at 3s. 5 1/2d.

Plantation Rubber. At to day's auction about 3 1/2 tons Ceylon and about 8 tons Straits and Malay States offered and for the most part found buyers. Fine pale biscuits went as high as 5s. 9 1/4d. [\$1.40 1/3] for Culloden estate; other good brands brought 5s. 8 3/4d. [\$1.39 1/3], one case of Ceará bringing the latter price. Twenty cases Vallambrosa estate rolled sheets sold at 5s. 8 1/4d @ 5s. 8 1/2d. [To days price for fine Pará 5s. 2d = \$1.25 2/3.]

Paris.

THE organization is announced of the Société Française des Caoutchoucs, with a capital of 1,250,000 francs [\$241,250], at 23, rue Taitbout, Paris, and a branch office in Havre, for buying and selling on commission Colonial products, and especially India-rubber from the French colonies. M. Georges Raverat is president of the council of administration; M. E. Petit director; and M. P. Lantz sub director. The board includes M. Edouard Bunge, of the Antwerp house of Bunge & Co.

Balata from Venezuela.

A BRITISH consular report, on the resumption of normal trade relations in Venezuela, gives the following comparison of the exports of Balata from the port of Ciudad Bolivar in 1901 (before the political troubles) and 1905:

1901—1,164,778 kilos,	worth £167,574
1905—1,277,533 "	" 155,081

Lisbon Receipts of Rubber.

From July 1 to June 30 in each year; reported by Martin Weinstein & Co.:

	1903	1904	1905	1906
Benguella	1843	1818	1888	1547
Loanda	1053	909	704	570
Thimbles	103	143	177	111
Other sorts	100	68	51	74
Total	2099	2038	2117	2302

Ceylon (Plantation) Rubber Exports, 1906.

DETAILS BY WEEKS.

POUNDS	POUNDS
January 1 to May 21....105,005	Total, 1906.....129,785
Week ending May 28 .. 2,626	Same dates, 1905.....15,438
Week ending June 4 .. 13,276	Same dates, 1904.....32,225
Week ending June 11.... 5,942	Same dates, 1903.....22,533
Week ending June 18.... 2,036	

DESTINATION.

Great Britain.....	89,170	Australia.....	1,272
United States.....	30,032	Belgium.....	247
Germany.....	8,817	France.....	247

[NOTE.—The figures for the United States relate to direct exports from Ceylon. Not a little Ceylon rubber is purchased for United States account at the London auctions, also plantation rubber from the Straits. The total imports at New York of such rubber during the first five months of 1906 amounted to 50 tons of fine and 20 tons of scrap.]

The Congo Rubber Movement.

EXPORTS of rubber from the Congo Free State for two years past are officially stated as follows:

	1904	1905
Total rubber exports.....kilos.	5,764,644	6,168,421
Product of the State.....	4,830,939	4,861,767

VALUES.

Total rubber exports	francs. 51,881,796	54,975,789
Product of the State.....	43,478,451	43,755,993

Exports include rubber in transit through the Free State, from the French Congo and from neighboring German and Portuguese territory.

Bordeaux.

IMPORTATION of rubber by months for the first half of two years past:

	1905	1906
January	kilos 130,255	166,285
February	126,540	217,860
March	173,355	257,505
April	152,650	116,960
May	74,700	162,380
June.....	77,100	111,920
Total	734,600	1,032,910

Liverpool.

EDMUND SCHLÜTER & Co. report [July 31]:

THE surplus of production over consumption remains in spite of the larger July arrivals at Pará, and the trade will require full receipts during August-September-October to prevent advance in prices following a reduction of stocks.

WORLD'S VISIBLE SUPPLY OF PARÁ, JULY 31.

	1906	1905	1904	1903	1902
Tons.....	3110	2275	1665	2550	3334
Prices, hard fine 5/2 1/4	5 6 1/4	4/11 1/4	4 0 1/2	2 10 1/2	

LIVERPOOL STOCKS OF AFRICAN RUBBER, JULY 31.

1906	388	1903	371	1900	823
1905	371	1902	516	1899	479
1904	473	1901	728	1898	376

WILLIAM WRIGHT & Co. report [August 1]:

Fine Pará.—Fine Pará has been very quiet, and prices have only fluctuated fractionally; at the beginning of the month prices of hard fine declined to 5s. 1 1/2d., but have since recovered to 5s. 2 1/2d., about the same as last month; Islands fine also declined to 5s., but the last sale made was 5s. 1 1/2d., with rather more inquiry. For delivery only a moderate business done, chiefly speculative, as most importers are adopting a very cautious policy in view of the strong statistical position of the market. America has been dull, which accounts in a large measure for the quietness of this market. On the other hand the Pará and Manáos markets have been firm and active at prices considerably above those ruling here. With moderate supplies for the next few months we should not be surprised to see an advance in rates.

IMPORTS FROM PARÁ AT NEW YORK

[The Figures Indicate Weights in Pounds]

July 24.—By the steamer *Cametense*, from Manáos and Pará:

IMPORTERS,	Fine	Medium	Coarse	Cauchó	Total
General Rubber Co....	97,500	18,400	114,100	18,100=	248,100
N. Y. Commercial Co.	55,700	14,400	27,500	38,400=	136,000
A. T. Morse & Co....	58,600	7,900	22,100	27,900=	116,500
Poel & Arnold.....	31,900	5,000	36,800	42,400=	116,100
C. P. dos Santos.....	30,200	7,300	11,200	500=	49,200
Hagemeyer & Brunn..	16,100	1,000	5,100	1,300=	23,500
Edmund Reeks & Co..	11,800	2,000	8,800	.....=	22,600
Total.....	301,800	56,000	225,600	128,600=	712,000

August 3. —By the steamer *Benedict*, from Pará:

A. T. Morse & Co.	60,300	8,700	21,400	17,100	107,500
General Rubber Co.	16,100	2,300	65,000	1,000	85,500
Poel & Arnold	27,200	5,000	22,000	2,100	56,300
Neale & Co.	7,100	.....	36,600	.....	43,700
C. P. dos Santos	26,400	7,800	5,000	.....	40,100
N. Y. Commercial Co.	6,400	19,400	4,600	2,400	32,800
Hagemeyer & Brunn	21,000	1,700	10,300	.....	29,000
Edmund Reeks & Co.	5,600	1,200	13,900	.....	20,700
Total	170,100	46,100	175,700	23,500	415,400

PARA RUBBER VIA EUROPE.

JULY 6. —By the <i>Patania</i> =Hamburg:	POUNDS
Poel & Arnold (Coarse).....	11,000
JULY 21. —By the <i>Florida</i> =Liverpool:	
New York Commercial Co. (Fine).....	11,000
JULY 23. —By the <i>Cuba</i> =Liverpool:	
Poel & Arnold (Medium).....	22,400
Poel & Arnold (Coarse).....	13,000
JULY 25. —By the <i>Germania</i> =Liverpool:	
New York Commercial Co. (Fine).....	11,000
JULY 26. —By the <i>Orinoco</i> =Colon:	
Boston & Bolivia Co. (Fine).....	5,000
JULY 27. —By the <i>Maraval</i> =Ciudad Bolivar:	
Thebaud Brothers (Fine).....	13,800
Thebaud Brothers (Coarse).....	1,000
G. Amsinck & Co. (Fine).....	6,000
AUG. 8. —By the <i>Gronada</i> =Ciudad Bolivar:	
Thebaud Brothers (Fine).....	40,000
Thebaud Brothers (Coarse).....	24,000
Middleton & Co. (Fine).....	13,000
Middleton & Co. (Coarse).....	2,000
G. Amsinck & Co. (Fine).....	3,000
AUG. 7. —By the <i>Boia</i> =Liverpool:	
Poel & Arnold (Coarse).....	10,000
AUG. 11. —By the <i>Bulgaria</i> =Hamburg:	
Poel & Arnold (Fine).....	10,000

OTHER ARRIVALS AT NEW YORK

CENTRALS.

JULY 3. —By the <i>Fernandez</i> =Bahia:	POUNDS
Adolph Hirsch & Co.	26,000
J. H. Rosshack & Bros.	25,000
American Commercial Co.	1,500
Frank G. Alden & Co.	7,000
Lawrence Johnson & Co.	4,500
A. D. Hitch & Co.	5,000
JULY 25. —By the <i>Proteus</i> =New Orleans:	
Manhattan Rubber Mfg. Co.	15,000
Eggers & Heimlein	1,000
G. Amsinck & Co.	1,000
A. S. Pascillas & Co.	500
Bartling & De Leon	500
JULY 23. —By the <i>Alliance</i> =Colon:	
Feltman Estate	4,000
JULY 24. —By the <i>Venetia</i> =Colon:	
D. A. Delima & Co.	1,000
Pedro A. Lopez	1,000
Speirling & Williams	1,000
Isaac Brandon & Bros.	1,000
Wessels & Kulunkamp	500
Kunhardt & Co.	500
Carlinas & Co.	500
JULY 28. —By the <i>Siguranca</i> =Frontera:	
Harburger & Stack	9,000
E. Steiger & Co.	7,500
H. Marquardt & Co.	1,000
E. N. Tibbals Co.	1,000
Graham, Hinkley & Co.	1,000
JULY 31. —By the <i>Prosper</i> =Hamburg:	
Feltman Estate	3,000
A. Santos & Co.	1,000
Andros & Co.	1,000
J. P. Rodrigues	1,000
Isaac Brandon & Bros.	1,000
Pedro A. Lopez	500
Mecke & Co.	500
AUG. 2. —By the <i>El Siglo</i> =Galveston:	
Continental & Mexican	25,000
AUG. 3. —By the <i>Flanbra</i> =Cebu:	
A. Rosenthals Sons	3,000
Haller & Sohle	200
William Kohut	1,000
G. Amsinck & Co.	1,000
AUG. 3. —By the <i>Montezuma</i> =Mexico:	
Harburger & Stack	6,000
H. Marquardt & Co.	3,000

August 15. —By the steamer *Maria Louise*, from Manáos and Pará:

N. Y. Commercial Co.	188,000	27,300	27,800	2,500	246,200
Poel & Arnold	87,000	26,400	31,300	28,500	173,200
General Rubber Co.	61,700	12,500	50,500	.....	163,600
Edmund Reeks & Co.	2,000	2,300	10,200	.....	12,100
Hagemeyer & Brunn	18,100	700	15,700	.....	34,500
L. Johnson & Co.	15,400	3,400	6,300	.....	25,100
Neale & Co.	10,400	4,600	4,800	2,000	21,800
A. T. Morse & Co.	.....	.....	15,800	.....	19,100
Total	405,200	80,500	207,400	33,000	726,100

CENTRALS - Continued.

E. Steiger & Co.	1,000
E. N. Tibbals & Co.	500
American Trading Co.	500
JULY 20. —By the <i>Orinoco</i> =Colon:	
George A. Alden & Co.	1,500
Mecke & Co.	1,000
Escobar & Gorgotza	500
Aramburo Incepta	500
E. B. Strout	500
JULY 28. —By the <i>Matanzas</i> =Tampico:	
New York Commercial Co.	15,000
Harburger & Stack	4,000
JULY 28. —By the <i>Florida</i> =New Orleans:	
A. T. Morse & Co.	6,500
JULY 28. —By the <i>Finanza</i> =Colon:	
Feltman Estate	9,000
Mann & Emdon	1,000
Lawrence Johnson & Co.	3,000
G. Amsinck & Co.	1,000
Dumarest Bros. & Co.	2,200
Roldan & Van Sickle	2,100
A. Santos & Co.	1,800
American Trading Co.	1,000
A. M. Capens Sons	800
Kunhardt & Co.	500
AUG. 4. —By the <i>Uluhan</i> =Bahia:	
I. H. Rosshack & Bros.	20,000
American Commercial Co.	15,000
Adolph Hirsch & Co.	3,000
AUG. 6. —By the <i>Proteus</i> =New Orleans:	
A. T. Morse & Co.	3,500
Manhattan Rubber Mfg. Co.	1,000
AUG. 6. —By the <i>Gutierrez</i> =La Plata:	
American Commercial Co.	3,000
AUG. 7. —By the <i>Adrian</i> =Colon:	
Feltman Estate	4,000
Mann & Emdon	1,000
Andean Trading Co.	1,000
AUG. 7. —By the <i>El Alpha</i> =Galveston:	
Continental & Mexican Co.	30,000
AUG. 8. —By the <i>Colorado</i> =Mobile:	
A. T. Morse & Co.	1,000
AUG. 8. —By the <i>Sarnia</i> =Columbia:	
Colombian Trading Co.	1,000
Matland Cappell Co.	1,000
Kunhardt & Co.	1,000
Isaac Brandon & Bros.	500
AUG. 9. —By the <i>Carib II</i> =Cebu:	
Eggers & Heimlein	5,000
H. W. Peabody & Co.	1,500
AUG. 10. —By the <i>Merida</i> =Frontera:	
Harburger & Stack	3,500
Thebaud Brothers	3,000
Isaac Kohut & Co.	1,000
Graham, Hinkley & Co.	1,000
E. Steiger & Co.	1,000
AUG. 10. —By the <i>Uluhan</i> =Bahia:	
D. A. De Lima & Co.	2,000
Pedro A. Lopez	500
AUG. 11. —By the <i>Ravanna</i> =Tampico:	
Fort Canada	25,000
AUG. 11. —By the <i>Panama</i> =Colon:	
Feltman Estate	11,000
National Sewing Machine Co.	1,500
Eggers & Heimlein	1,500
AUG. 11. —By the <i>El Valle</i> =Galveston:	
Continental & Mexican Co.	30,000
New York Commercial Co.	22,000
AUG. 11. —By the <i>St. Paul</i> =London:	
Poel & Arnold	1,000
AUG. 14. —By the <i>Albany</i> =Columbia:	
American Trading Co.	1,000
Kunhardt & Co.	1,000
Escobar & Gorgotza	500
A. He'd	500
Suzarte & Whitney	600

CENTRALS - Continued.

G. Amsinck & Co.	600
Mecke & Co.	500
AUG. 15. —By the <i>Patania</i> =Carraboe:	
Scanz & Co.	2,000
American Trading Co.	2,000
Escobar & Gorgotza	500
Roldan & Van Sickle	500
AUG. 15. —By the <i>Florida</i> =Colon:	
Feltman Estate	9,000
E. B. Strout	6,500
Lawrence Johnson & Co.	3,000
G. Amsinck & Co.	1,000
Dumarest Bros. & Co.	3,000
Roldan & Van Sickle	3,000
Aramburo Incepta	3,000
A. Santos & Co.	2,000
Meyer Hecht	1,500
Wessels & Kulunkamp	1,500
W. R. Grace & Co.	1,000
Isaac Brandon & Bros.	500
AUG. 18. —By the <i>Florida</i> =New Orleans:	
A. T. Morse & Co.	6,500
Manhattan Rubber Mfg. Co.	1,000
AUG. 18. —By the <i>Florida</i> =Mexico:	
E. N. Tibbals Co.	1,000
Fred'k. Probst & Co.	1,000
Graham, Hinkley & Co.	500
E. Steiger & Co.	500
AUG. 18. —By the <i>El Siglo</i> =Galveston:	
Continental & Mexican Co.	35,000
AUG. 20. —By the <i>Yucatan</i> =Tampico:	
Edward Maurer	45,000
New York Commercial Co.	20,000
AUG. 20. —By the <i>Ryona</i> =Bahia:	
A. D. Hitch & Co.	24,000
I. H. Rosshack & Bros.	2,500
American Commercial Co.	55,000
Thomsen & Co.	1,500
AUG. 22. —By the <i>Cedric</i> =Liverpool:	
General Rubber Co.	100,000
JULY 27. —By the <i>Balta</i> =Liverpool:	
George A. Alden & Co.	33,500
JULY 28. —By the <i>Proteus</i> =Hamburg:	
Poel & Arnold	50,000
George A. Alden & Co.	4,000
General Rubber Co.	6,500
H. Amy & Co.	32,000
JULY 28. —By the <i>Amorica</i> =Hamburg:	
A. T. Morse & Co.	35,000
AUG. 1. —By the <i>Finland</i> =Antwerp:	
F. R. Muller & Co.	15,000
AUG. 2. —By the <i>Waldsee</i> =Hamburg:	
General Rubber Co.	9,000
A. T. Morse & Co.	15,000
AUG. 4. —By the <i>Philadelphia</i> =London:	
Robinson & Stiles	1,000
A. W. Brunn & Co.	1,000
AUG. 6. —By the <i>Celtic</i> =Liverpool:	
George A. Alden & Co.	11,000
A. W. Brunn & Co.	10,000
AUG. 6. —By the <i>Umbria</i> =Liverpool:	
George A. Alden & Co.	16,000
Raw Products Co.	9,000
AUG. 7. —By the <i>Boia</i> =Liverpool:	
Poel & Arnold	15,000
General Rubber Co.	90,000
AUG. 8. —By the <i>Caronia</i> =Liverpool:	
Poel & Arnold	22,000
Raw Products Co.	1,000
George A. Alden & Co.	11,500
AUG. 8. —By the <i>Oceanic</i> =Liverpool:	
Rubber Trading Co.	22,000
A. T. Morse & Co.	15,000

AFRICANS—Continued.

Aug. 11. By the <i>Bulgaria</i> —Hamburg:	
Poel & Arnold	25,000
Rubber Trading Co.	10,000
	35,000
Aug. 13. By the <i>La Bretagne</i> —Havre:	
Poel & Arnold	3,000
George A. Alden & Co.	3,000
	6,000
Aug. 14. By the <i>Pennard</i> —Lisbon:	
General Rubber Co.	15,000
Aug. 15. By the <i>Kronland</i> —Antwerp:	
George A. Alden & Co.	100,000
Poel & Arnold	135,000
A. T. Morse & Co.	35,000
Rubber Trading Co.	15,000
General Rubber Co.	25,000
	308,000
Aug. 16. By the <i>Pretoria</i> —Hamburg:	
General Rubber Co.	15,000
George A. Alden & Co.	10,000
A. T. Morse & Co.	9,000
Poel & Arnold	6,000
	40,000
Aug. 20. By the <i>Eturia</i> —Liverpool:	
George A. Alden & Co.	11,500
Raw Products Co.	5,500
Earle Brothers	4,000
Henry A. Gould Co.	2,500
	24,000
Aug. 20. By the <i>Louise</i> —Havre:	
A. T. Morse & Co.	11,500

EAST INDIAN.

July 23. By the <i>Seneca</i> —Singapore:	
George A. Alden & Co.	10,000
July 24. By the <i>Minnehaha</i> —London:	
A. T. Morse & Co.	18,000
July 27. By the <i>Waldenfelz</i> —Colombo:	
A. T. Morse & Co.	3,500
July 3. By the <i>Minnetonka</i> —London:	
A. T. Morse & Co.	5,500
Robinson & Stiles	4,500
	10,000
Aug. 11. By the <i>Bulgaria</i> —Hamburg:	
George A. Alden & Co.	10,000
Aug. 11. By the <i>St. Paul</i> —London:	
Poel & Arnold	17,000
George A. Alden & Co.	2,000
	19,000
Aug. 13. By the <i>Ramsay</i> —Singapore:	
H. Raoult & Co.	33,000
Joseph Cantor	30,000
A. T. Morse & Co.	20,000
Poel & Arnold	10,000
F. R. Muller & Co.	13,000
	106,000

EAST INDIAN—Continued.

Aug. 13. By the <i>Victorian</i> —Liverpool:	
Poel & Arnold	5,500
Aug. 15. By the <i>Bacania</i> —Colombo:	
George A. Alden & Co.	22,000
A. T. Morse & Co.	3,000
	25,000
Aug. 15. By the <i>Natama</i> —Singapore:	
Poel & Arnold	30,000
Joseph Cantor	25,000
George A. Alden & Co.	25,000
A. T. Morse & Co.	15,000
Winter & Smillie	11,000
	106,000
Aug. 20. By the <i>Minnehaha</i> —London:	
George A. Alden & Co.	11,500
GUTTA-JELUTONG.	
Aug. 13. By the <i>Kamsai</i> —Singapore:	
A. W. Brunn & Co.	10,000
Heabler & Co.	55,000
F. R. Muller & Co. African	25,000
	300,000
Aug. 16. By the <i>Satsuma</i> —Singapore:	
Heabler & Co.	430,000
A. W. Brunn & Co.	260,000
Poel & Arnold	45,000
George A. Alden & Co.	215,000
Robinson & Stiles	155,000
F. R. Muller & Co.	10,000
Interior Points	65,000
	1,180,000

GUTTA-PERCHA AND BALATA.

July 28. By the <i>Pretoria</i> —Hamburg:	
Robert Soltan Co.	7,000
July 28. By the <i>St. Louis</i> —London:	
Kempshall Manufacturing Co.	2,500
Aug. 4. By the <i>Philadelphia</i> —London:	
F. R. Muller Co.	11,000
Aug. 10. By the <i>Pennsylvania</i> —Hamburg:	
Robert Soltan Co.	84,000
BALATA.	
July 27. By the <i>Maracaibo</i> —Ciudad Bolivar:	
Thebaud Brothers	15,000
Middleton & Co.	3,500
	18,500
July 28. By the <i>St. Louis</i> —London:	
F. R. Muller & Co.	8,000
July 30. By the <i>Parma</i> —Demerara:	
George A. Alden & Co.	7,500
C. P. Shulstone	2,000
	9,500
Aug. 6. By the <i>Grenada</i> —Ciudad Bolivar:	
Thebaud Brothers	22,500
Aug. 11. By the <i>Prim Mauritz</i> —Surinam:	
G. Amsinck & Co.	4,500

BALATA.—Continued.

Aug. 16. By the <i>Manoa</i> —Demerara:	
George A. Alden & Co.	8,000

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—JULY.

Imports:	Pounds.	Value.
India-rubber	4,334,486	\$3,259,217
Gutta-percha	21,532	15,992
Gutta-jelutong (Pontianak)	374,871	12,255
Total	4,724,889	\$3,287,464
Exports:	Pounds.	Value.
India-rubber	95,631	\$80,233
Reclaimed rubber	63,743	8,439
Rubber scrap Imported	1,478,889	\$107,979

BOSTON ARRIVALS.

	POUNDS.
JUNE 4. By the <i>Libani</i> —Liverpool:	
George A. Alden & Co.—African	1,700
JUNE 4. By the <i>Lancastrian</i> —London:	
George A. Alden & Co.—East Indian	3,700
JUNE 4. By the <i>Lake Michigan</i> —Hamburg:	
George A. Alden & Co.—African	55,200
JUNE 8. By the <i>Boernia</i> —Liverpool:	
Poel & Arnold—African	2,000
JUNE 12. By the <i>Canadian</i> —Liverpool:	
Poel & Arnold—African	15,200
JUNE 19. By the <i>Sylvania</i> —Liverpool:	
William Wright & Co.—Central	13,800
JUNE 19. By the <i>Columbian</i> —London:	
George A. Alden & Co.—East Indian	2,600
JUNE 25. By the <i>Sagamore</i> —Liverpool:	
Poel & Arnold—African	13,100
George A. Alden & Co.—African	5,200
	18,300
JUNE 27. By the <i>Winifredian</i> —Liverpool:	
William Wright & Co.—Central	12,000
JUNE 28. By the <i>Clan McLaughlan</i> —Calcutta:	
George A. Alden & Co.—East Indian	7,000
JUNE 28. By the <i>Indore</i> —Liverpool:	
William Wright & Co.—Central	33,500
JUNE 30. By the <i>Cambrian</i> —London:	
George A. Alden & Co.—East Indian	1,700
Total	167,600

OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS)

UNITED STATES.				GREAT BRITAIN.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
June, 1906	3,894,429	244,099	3,650,321	June, 1906	4,681,712	2,822,548	1,859,164
January-May	29,598,479	1,539,549	28,058,921	January-May	29,796,032	15,913,632	13,882,400
Six months, 1906	33,492,899	1,783,648	31,709,242	Six months, 1906	34,477,744	18,736,480	15,741,264
Six months, 1905	39,834,796	1,574,000	38,260,796	Six months, 1905	32,678,688	18,032,680	14,646,008
Six months, 1904	34,491,123	1,760,986	32,730,137	Six months, 1904	30,909,872	17,549,062	13,360,810
GERMANY.				ITALY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
June, 1906	3,092,320	771,980	2,320,340	June, 1906	1,165,780	126,720	1,039,060
January-May	17,318,490	4,637,160	12,681,240	January-May	854,700	52,140	796,560
Six months, 1906	20,410,720	5,409,140	15,001,580	Six months, 1906	854,700	52,140	796,560
Six months, 1905	22,835,120	7,363,840	15,471,280	Six months, 1905	841,720	52,140	789,580
Six months, 1904	18,294,760	5,233,580	13,061,180	Six months, 1904			
FRANCE.*							
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.				
June, 1906	2,687,600	1,350,140	1,337,460				
January-May	15,199,140	7,161,660	7,937,480				
Six months, 1906	17,757,740	8,511,800	9,245,940				
Six months, 1905	14,886,000	7,923,520	6,962,480				
Six months, 1904	19,775,820	6,660,720	13,115,100				

NOTE.—German statistics before Jan. 1, 1906, include Gutta-percha, Balata, old (waste) rubber. British figures include old rubber. French, Austrian, and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

* General Commerce.

Forsyth

TRADE MARK

Combination Metal Insertion Packing and Gasket Tubing



PATENTED APRIL 11, 1899



A superior tubular gasket that is durable and will not blow out when properly applied. It makes gaskets of any size or shape without waste.

A RUBBER PACKING with one or more plies of pliable sheet metal insertion. Forsyth Combination Packing will satisfactorily withstand the heat of high pressure steam, and is not so liable to blow out as ordinary packings. It is practically a metal packing with elastic surfaces. A practical trial of Forsyth Combination Packing invariably results in a strong endorsement of it.

CAUTION

As the exclusive manufacturers of sheet metal insertion rubber packing and gasket tubing, under a patent issued April 11, 1899, to James Bennett Forsyth, we caution all parties against manufacturing, selling or using any rubber packing with sheet metal insertion that in any way infringes said patent.

BOSTON BELTING CO.

JAMES BENNETT FORSYTH, Mfg. Agt. and Gen. Mgr.

ORIGINAL
MANUFACTURERS OF

VULCANIZED RUBBER GOODS

ESTABLISHED
1828

BOSTON NEW YORK BUFFALO CHICAGO ST. LOUIS SAN FRANCISCO

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TRADE MARK.

AWARDED GOLD MEDAL
at
ST. LOUIS EXPOSITION,
1904.

EUREKA FIRE HOSE CO.,

13 BARCLAY ST., NEW YORK.

MANUFACTURERS OF THE CELEBRATED BRANDS

“RED CROSS” (2 Ply) “PARAGON” (3 Ply) “EUREKA” (4 Ply)

“U. S.” Brand Rubber Lined Cotton Fire Hose

Adopted as the Standard Factory Fire Hose by the Associated Factory Mutual Fire Insurance Companies, for Factory and Mill Fire Protection.

COTTON and LINEN HOSE of all grades, both plain and rubber-lined. All sizes.

These Goods are especially adapted for use in Woolen, Cotton, Silk, Print, Knit Goods and Carpet Mills, Dyeing and Bleaching establishments, Pulp and Paper Mills, Breweries and Distilleries, Sugar Refineries, Ice and Refrigerating Machinery, Chemical Works, Tanneries, etc. Samples and full information given on application.

COTTON HOSE,

We Spin, Weave, and Line Our Own Goods.

GARDEN HOSE,

New Lines—New Methods.

BELTING and PACKING.

Empire Rubber Mfg. Co.,

NEW YORK.

CHICAGO.

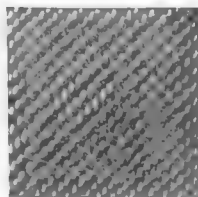
BOSTON.

ST. LOUIS, MO.

Factories: TRENTON, N. J.

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DODS CROSS EXPANSION PISTON PACKING.



CROSS
SECTION



PAT. MAR. 15 1897

Dods Packing, made from high grade Rubber and Duck on the bias, placed at a diagonal from every side, has a cross expansion of 100 per cent.; it will hold steam or liquid when all others fail.

Send for Samples to Dept. 6.

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42 Sacramento St.,

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BOSTON WOVEN HOSE & RUBBER CO.

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ALEXANDER M. PAUL, General Manager



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Warehouses: NEW YORK PITTSBURG CLEVELAND CHICAGO SAN FRANCISCO
 Offices: BOSTON PHILADELPHIA BALTIMORE BUFFALO DETROIT ST. LOUIS MILWAUKEE

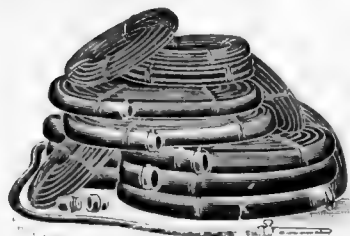


GOLD MEDAL FOR MECHANICAL RUBBER GOODS.
 HIGHEST AWARD FOR RUBBER BELTING.
 LOUISIANA PURCHASE EXPOSITION, ST. LOUIS, 1904.

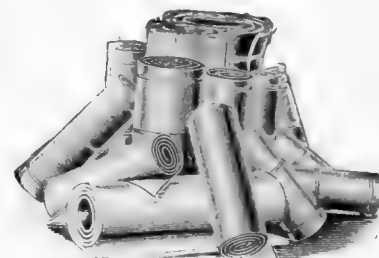
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"All goods bearing our brands are fully guaranteed." : : : :



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Rubber Hose, Belting, Packing, Valves, Gaskets, Mats, Matting, Cotton Rubber Lined Hose, etc.

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Rubber Surface Clothing Mackintoshes and Raincoats

for the fall season of 1905.

AUTOMOBILE GARMENTS

in silks and other light weight fabrics.

PARTICULARS UPON APPLICATION.

HODGMAN RUBBER COMPANY

Factories:
TUCKAHOE, N. Y.
MOUNT VERNON, N. Y.

806-808 BROADWAY
NEW YORK

ESTABLISHED
IN 1838

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OUR REGISTERED TRADE MARKS



ALL GOODS
OF THE ABOVE



BEARING ANY
BRANDS ARE

FULLY WARRANTED
BY

THE COMBINATION RUBBER MFG. CO.

BLOOMFIELD, ESSEX CO., N. J.

MECHANICAL RUBBER GOODS

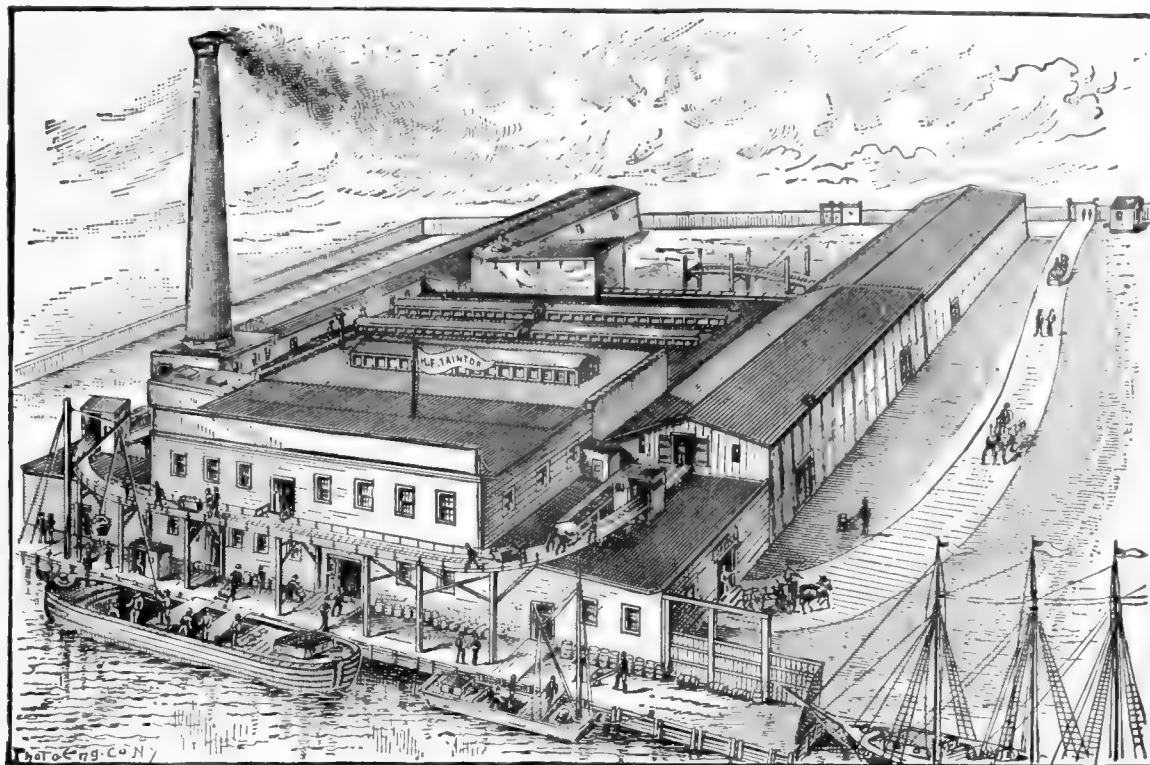
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ST. LOUIS, WAINWRIGHT BLDG.

NEW YORK, 149 CHURCH ST.

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The H. F. Taintor Mfg. Co.

are the largest manufacturers of Whiting and English Cliffstone Paris White in this country.

All grades of Whiting prepared especially for use of Rubber Manufacturers, finely ground and bolted and *very* dry.

The "Westminster" brand of English Cliffstone Paris White is the finest made in the world, and is particularly suited to manufacturers of fine Rubber goods and specialties.

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INCORPORATED 1851.

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HOSE,
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ETC.**

OF SUPERIOR QUALITIES.

**HIGH GRADE
Lawn and Garden Hose
A SPECIALTY.**

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of Woolen, Cotton and Rubber*

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Vulcanized or Unvulcanized for various purposes*

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Lake Shore Rubber Co.

Manufacture Mechanical Rubber Goods,

**HOSE, BELTING, PACKING, VALVES,
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WRITE FOR PRICES AND SAMPLES.

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SPRINGFIELD TIRE AND RUBBER COMPANY,
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**RUBBER HEELS, SPRINGFIELD ABRASIVE POLISH-
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**Bicycle, Carriage, Automobile.
NONE BETTER.**

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Wherever and whenever you may be in need of Valves and
desire superior quality and reliability, Insist on having

JENKINS BROS. VALVES

All Genuine bear Trade-Mark as shown in Cut, and are Absolutely Guaranteed

Write for booklet, "Valve Troubles and How to Avoid Them."

JENKINS BROS. New York Boston Phila. Chicago London

BLACK BEAR SHEET PACKING
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BLACK BEAR RING PACKING
BLACK BEAR GASKET TUBING
BLACK BEAR GASKETS
BLACK BEAR STEAM HOSE
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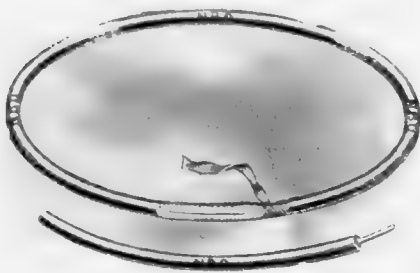
RESIST MORE HEAT, OIL OR PRESSURE THAN USUAL KINDS. TRY THEM!

MADE BY

TRENTON RUBBER MFG. CO.
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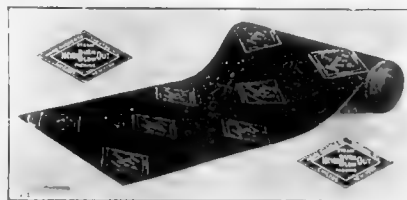
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TUBULAR GASKET.**



Will not harden under any degree of heat.
 Will not burn out under highest pressure.

N. B. O. SHEET PACKING.

[A HIGHLY POLISHED BLACK SHEET
PACKING WITH A SMOOTH SURFACE.]



*Made in pure N. B. O. sheet, and
with Brass or Copper Wire insertion.*

N. B. O. GASKETS AND RINGS.



*Made without insertion, with Cloth insertion
or with Wire insertion.*

N. B. O. PUMP VALVES



for CONDENSERS - - - [Soft]
 for EXTREME HIGH PRESSURE [Medium]
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No roll of N. B. O. Sheet Packing
is genuine without the

Trade  Mark

in a diamond extending through en-
tire roll.

**N. B. O. HOSE FOR STEAM,
OIL OR ACID.**



Guaranteed for extreme high steam pressure.
 Will outlast any hose manufactured for
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New York, - - - - - 10 Barclay St.
Cleveland, - - - - - 190 Seneca St.

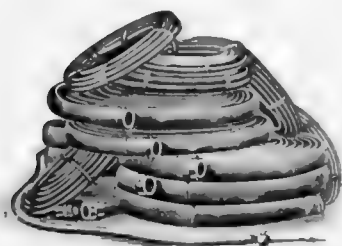
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"Our name and brand a guarantee of quality."



Air Brake Hose Rubber Belting
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"Red Oak" Sheet Packing
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Rubber Lined Cotton Fire Hose

Mechanical Rubber Goods for all purposes.



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ELECTRIC POWER IN FACTORIES.

The Advantages of Direct Drives and the
Saving in Power due to Friction of
Belts, etc., are Very Im-
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Electric machinery as it is manufactured to-day is of such a simple type that the depreciation, the cost of maintenance and repairs, and the expense and delays due to shut-downs are considerably less than where the mechanical system of transmission is used. It has been commonly supposed that on account of the fact that the intricacies of electrical designs are understood by only those directly concerned with them, it is necessary to have a number of especially trained experts to look after such machines, but in actual practice less supervision is required over the electrical machines than to keep shafts and belts in good condition, and usually there is considerable saving in the cost of replacing worn out parts. *"Electric Power in Factories." A copy sent free upon request. Standard Electric Motor Company, Pittsfield, Mass.*

A. SCHRADER'S SON, Inc.,

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Manufacturers of

SCHRADER UNIVERSAL VALVES

for Pneumatic Tires:

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and similar articles:

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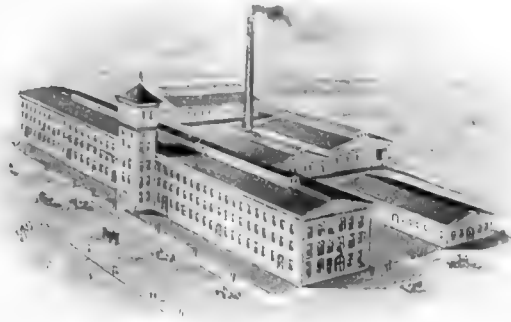
Shower Bath Sprinklers, Shower Rings:

Brass Fittings for Rubber Goods of Every Description:
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FURNISHERS OF DIVING APPARATUS
FOR UNITED STATES NAVY.

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THE EUREKA RUBBER MFG. CO. OF TRENTON, NEW JERSEY.



Manufacturers of

Rubber Carriage Drill and Duck, Cotton Rubber Lined Hose, and Mechanical Rubber Goods of Every Description.

Factory strictly modern in design, with machinery of the latest and most approved description throughout, using only first class raw material, and producing nothing but reliable grades.

We solicit inquiries from the trade direct, or through our Branch Stores or Salesmen. We promise prompt attention to same.

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On the main line Pennsylvania R. R.

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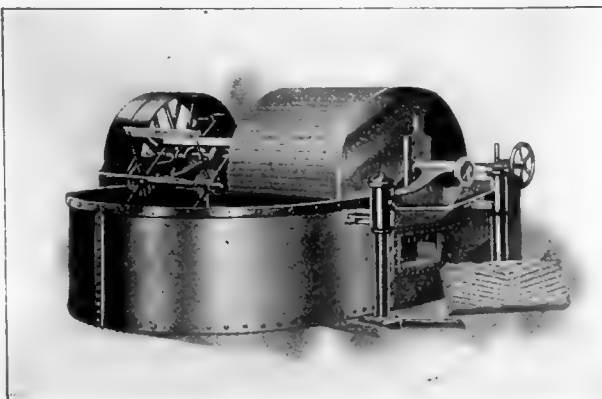
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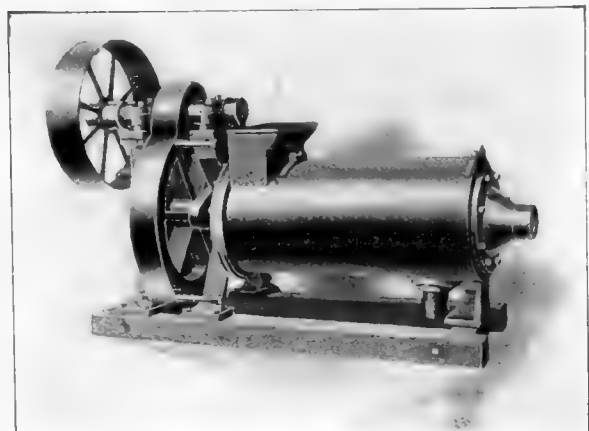
NEW RUBBER MACHINERY

WASHING MACHINE
for Crude Rubber



Removes all Sand, Bark and Dirt. Try it for Centrals, Africans and Coarse Para. Rubber Planters; this will clean your Scrap Rubber.

WATER SEPARATOR
for Reclaimed Rubber



Instead of Evaporating Tanks, use this. Takes 40% of the moisture out at once. Then a short time on the screens delivers the product bone dry.

THE TURNER VAUGHN & TAYLOR CO.

Cuyahoga Falls, Ohio, U. S. A.

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We Manufacture Our Products by Mechanical Means.

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Manufacturers of

THE FINEST GRADES OF

Reclaimed and Devulcanized Rubber

FOR

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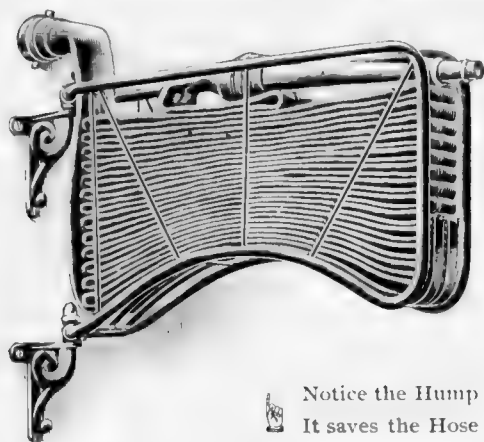
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It saves the Hose

WIRT'S PATENT Hose Carts, Reels and Racks

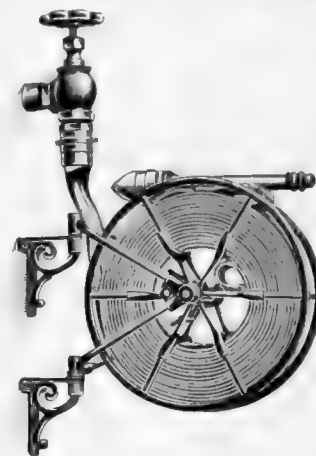
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Wrought and Malleable Iron.

SOLD AND USED EVERYWHERE.

Send for descriptive Catalogue.

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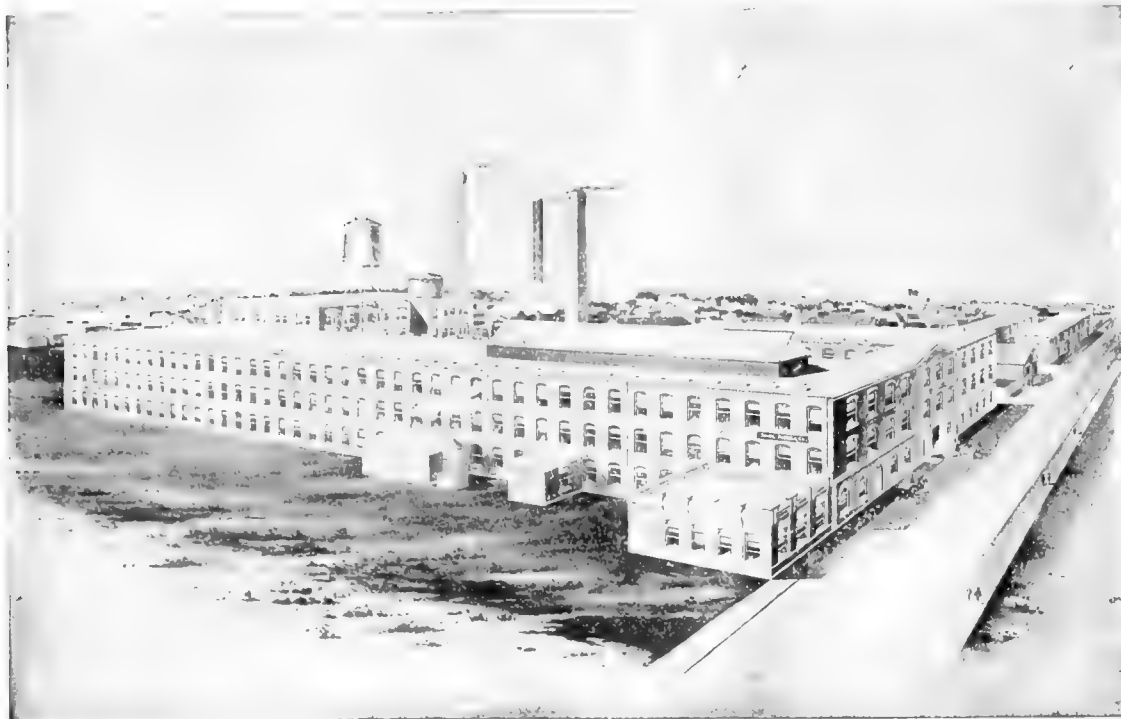
For General Compounding

"M.R." makes a perfect union with rubber. Prevents blistering, and the harsher action of free Sulphur. Absolutely acid proof. Has been used regularly by Rubber Manufacturers for the past four years.

Manufactured only by the AMERICAN ASPHALTUM & RUBBER CO., Chicago.

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ESTABLISHED 1874

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SOFT and HARD RUBBER



**PROVIDENCE,
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PLANT OF THE DAVOL RUBBER COMPANY

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**Druggists' Sundries.
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Hard Rubber Goods.**

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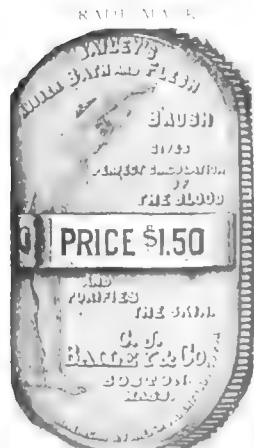
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**High Grade Seamless and
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Size 3 x 5 in

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BAILEY'S RUBBER BRUSHES

	PER DOZ.		PER DOZ.		PER DOZ.
Bailey's Rubber Bath Brush,	\$13.20	Bailey's Rub. Tooth Brush, No. 2,	\$2.75	Bailey's Rub. Glove Cleaner,	\$.82
" " Shampoo "	7	" " Manicure Brush,	2 20	" " Mas'ge Roller,	4.40 doz.
" " Complexion "	4.40	" " Sewing Fingers, 3.85 gro.	.82	" Duplex " "	8.80 doz.
" " Face Complexion "	2 20	" " Teething Ring,	.82	" Body " "	17.60 doz.
" " Facial Brush,	4.40	" " Heel Cushion,	2 20	" Complexion Soap,	.75 doz.
" " Hand " "	4 40	" " Soap Dishes,	2 20	" Skin Food,	4.00 doz.
" " Bath " "	2 20	" " Trumpet,	1 20		
" " Bath " No. 1,	2 20	" " Bubble Flower,	.82		

Bailey's "Won't Slip" Crutch Tip, (all sizes) \$1.10 per doz. All Goods sent prepaid by us.

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**COMBS, SYRINGES, CROWN WATER BOTTLES,
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EVERY DESCRIPTION OF HARD RUBBER GOODS.

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MANUFACTURERS OF

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OUR { **SAMPLES ARE CONVINCING.**
PRICES ARE CONSISTENT.

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Western Branch:

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CHICAGO, ILL.

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R Syringes. U

U Atomizers, N

G Nipples, N

Sheeting, D

Tubing, R

Urinals,

S Water Bottles, I

T Golf Balls. F

AND

Special Goods To Order.

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19 Milk Street, BOSTON, MASS., U. S. A.

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DR. TULLAR'S Vaginal Spray

INJECTION AND SUCTION

Made entirely of rubber. The Ball Tip is removable for cleansing, inserted without discomfort or harm. The Elliptical Shield causes no strain, permits perfect Dilation and cleansing of the parts, and prevents spilling. The Octagon bulb has a soft, pliable neck, holds pipe less rigidly when in use. The Pipe is of sufficient length to permit the Ball Spray injection to come in contact with, and wash out all secretions.

Descriptive List and Prices on application.

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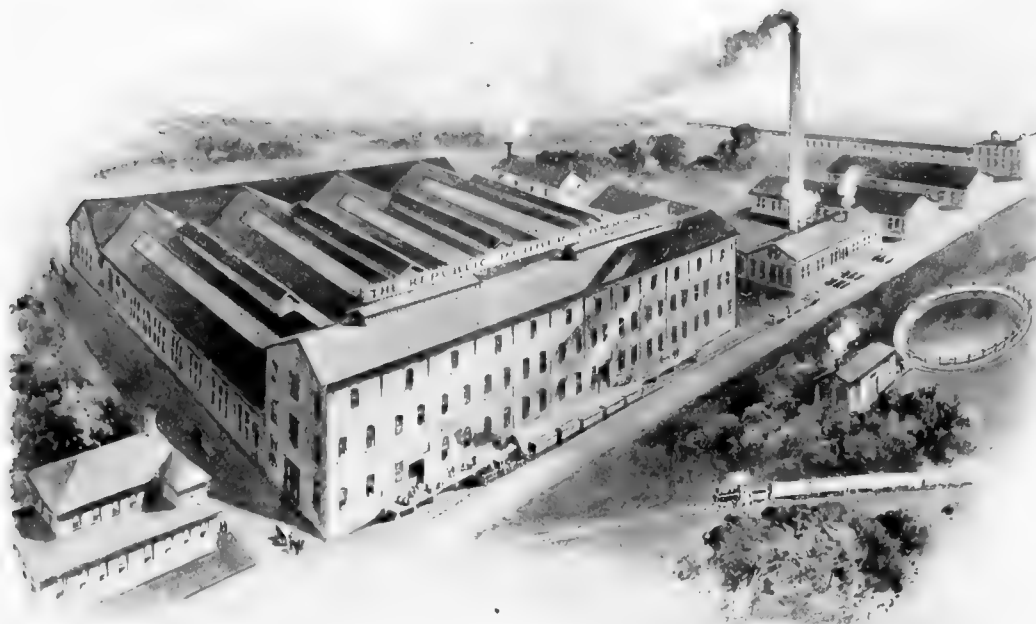
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NEW HAVEN, CONN., U. S. A.



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THE MOST MODERN MECHANICAL RUBBER GOODS FACTORY IN EXISTENCE.

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SEAMLESS, SEAMED AND
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Goods for CUSTOMERS EXCLUSIVELY a Specialty

ALL GOODS GUARANTEED

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Moulded and Special Rubber Goods
Stamp Gum and Sponge Rubber
Rubber Goods for Hat Manufacturers
Unvulcanized Compounds for the Trade
Dress Shield Materials, Etc.

Correspondence solicited

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AIR GOODS.

CORRESPONDENCE SOLICITED.

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SULPHURET OF ANTIMONY

FOR THE RUBBER TRADE.

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THE "BLUE RIBBON" BRAND

SHAVING AND PAINT BRUSHES ARE
SET IN RUBBER and DO NOT SHED BRISTLE
or FALL APART. Send for Booklet!

THE "RUBBERSET" BRUSH CO.
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A SAMPLE MEYER LUMBERMEN'S



It is probably quite true that the same workman cannot excel equally in making light Carton Specialties and heavy Lumbermen's goods. But the same company can perfectly well excel in both these directions, and the Meyer Company always has. Our Carton Specialty makers have been doing this work, some of them for 25 years, and the men that make our Lumbermen's have been making them equally as long. Naturally both are perfect in their work.

The Lumber King, photographed above, is just an average sample of our Lumbermen's goods. They are the duck and rubber incarnation of toughness and wear. Our 1905 catalogue shows ten illustrations of Lumbermen's shoes, viz.: Duck Erie, Ottawa, 2 Buckle and 1-Buckle Perfection, Captain, Lumber King and Huron, and Gum Perfection, Captain and Huron.

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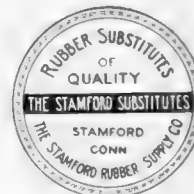
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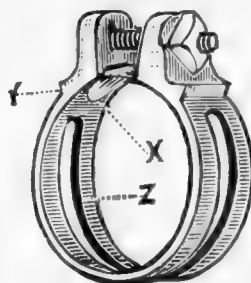
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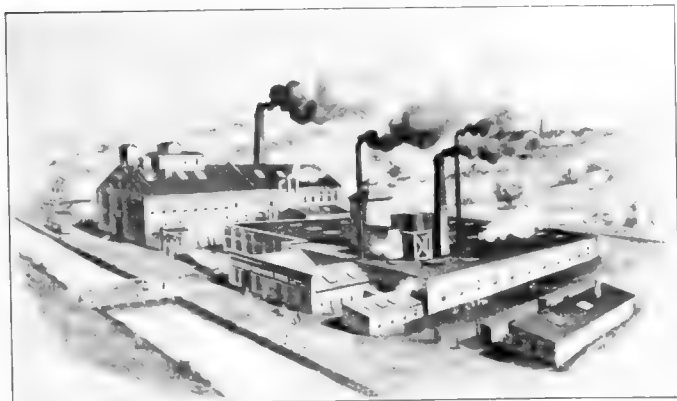
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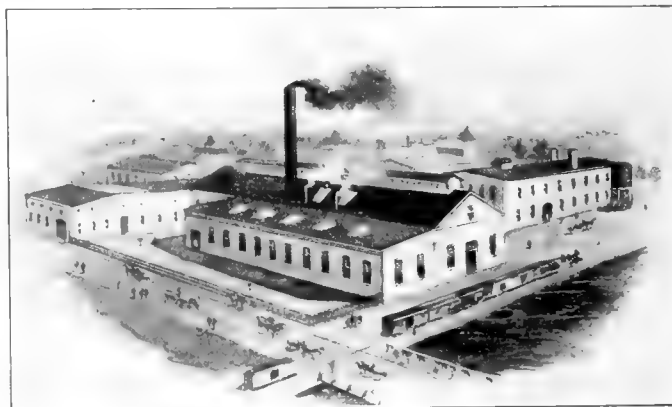
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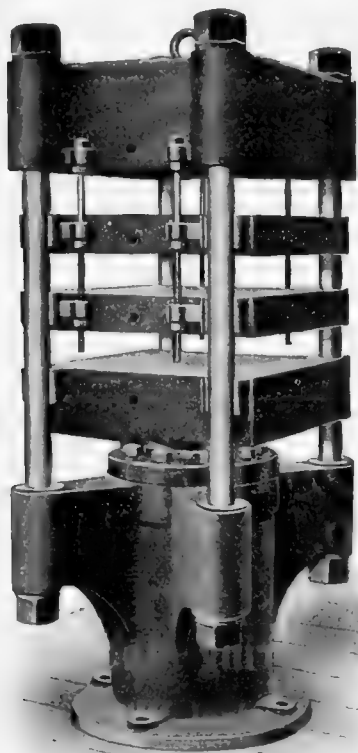
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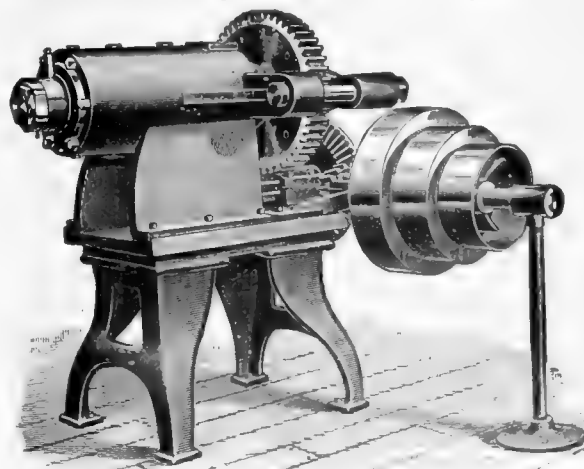
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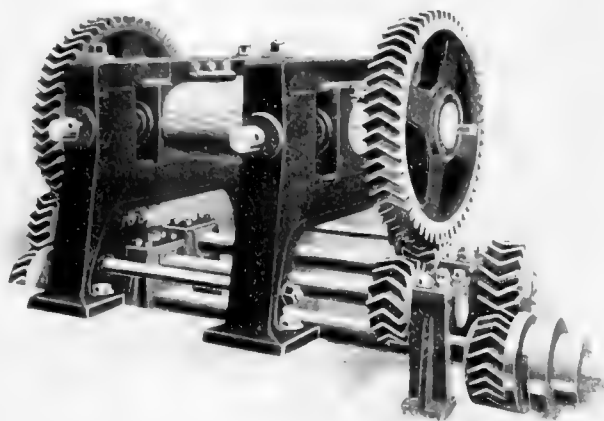
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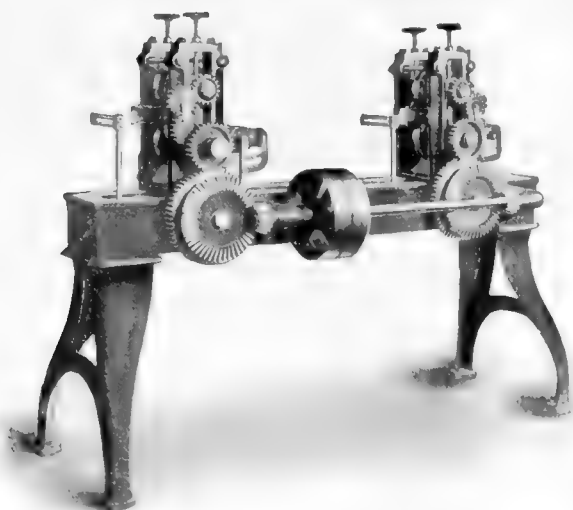
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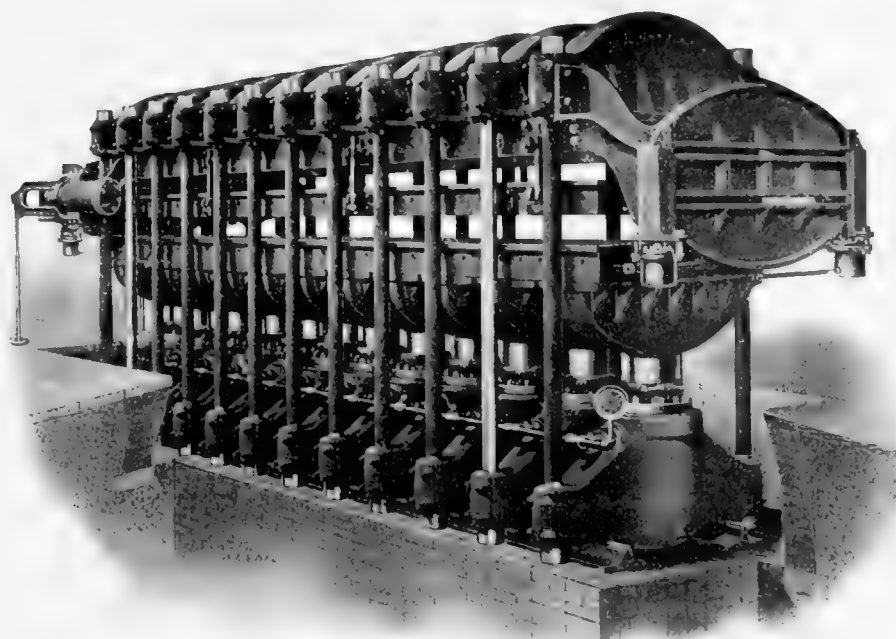
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Shafting, Machine Moulded Gearing, Friction Clutches, etc.

ESTABLISHED 1836.

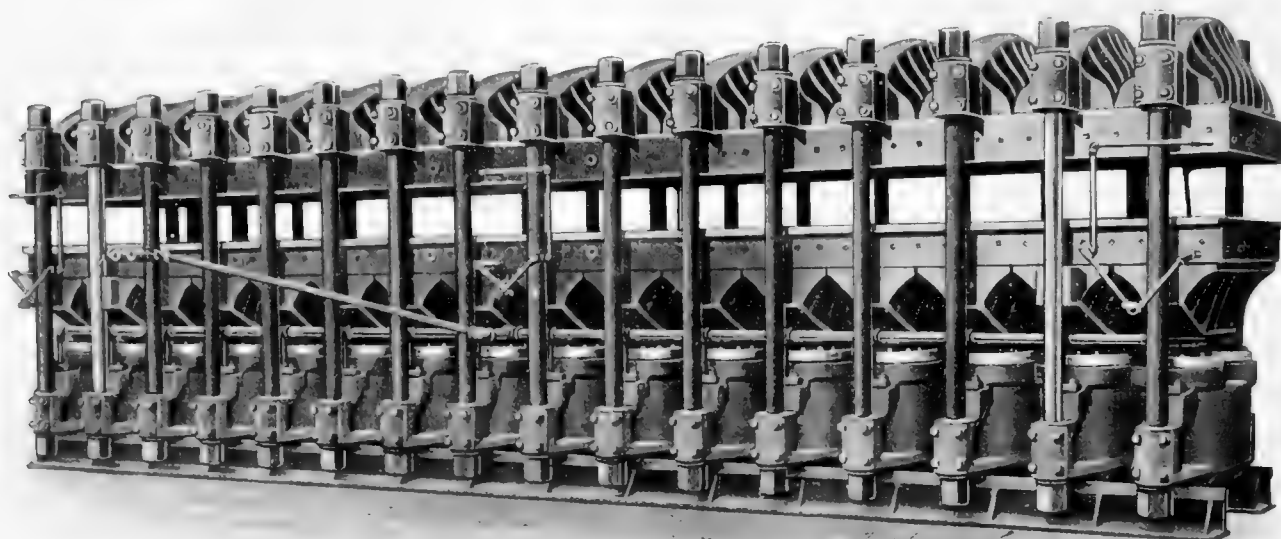
INCORPORATED 1850.

BIRMINGHAM IRON FOUNDRY,

DERBY, CONN., U. S. A.

H. F. WANNING, President.
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Oldest and Largest Makers of
RUBBER MILL MACHINERY
 in the United States.



52'' X 30'' 6'' HYDRAULIC PRESS,
 WITH 32 9'' RAMS.

RUBBER MILL MACHINERY.

MILLS Two and Three Roll Washers—Grinders, Warmers and Mixers, all sizes up to 26''x84''—Sheeters and Refiners—Crackers with Chilled Cut Rolls—Experimental mill for laboratory use, etc., etc.

CALENDERS Two, Three and Four Roll Calenders—Pearce Patent Six Roll Double Friction Calender—Soling and Upper Calenders with Engraved Rolls—Embossing Calenders for Carriage Cloth—Double Sheet Calenders—Special Calenders of all kinds.

PRESSES Hydraulic Presses for Belting—Clark's Patent Hydraulic Belt Stretchers—Screw Presses of all kinds—Multiple Hydraulic Presses for Mould Work—Accumulators and Pumps.

POWER TRANSMISSION Shafting; Pattern, Machine Floured and Cut Gearing; Self-Oiling and Standard Pillow Blocks; Friction Clutches, etc.

SPECIAL MACHINERY Complete Rubber Reclaiming Plants—Belt Making Machines—Bias Cutting Machines—Automatic Jar Ring Lathes—Roller Bearing Heater Cars—Transfer Cars—Turn Tables—Cloth Dryers—Duck Slitters—Cording Machines—Band Cutting Machines—Spreaders—Varnishing Machines—Doubling Drums—Complete Hose Making Plants, etc.

Mention The India Rubber World when you write.



STURTEVANT FANS

are individually designed for the work they are to do. Each fits its chosen place, operates at maximum efficiency, and is built for endurance under the most trying conditions.

B. F. STURTEVANT CO., BOSTON, MASS.

General Offices and Works, Hyde Park, Mass.

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Designers and Builders of Heating, Ventilating, Drying and Mechanical Draft Apparatus, Fans, Blowers and Exhausters; Steam Engines, Electric Motors and Generating Sets, Fuel Economizers; Forges, Exhaust Heads, Steam Traps, etc.

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498

DRYERS AND WATER SEPARATORS

—FOR—

RECLAIMED RUBBER

AUTOMATIC AND ECONOMICAL
PRODUCES HIGHER GRADE MATERIAL
AT LOWER COST AND MORE EFFICIENT.

Installed in the
Largest Reclaiming Plants in the World.

AMERICAN PROCESS CO.,

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HOLMES BROS. MAKERS OF RUBBER MOLDS

And Special Machinery for Rubber Factories
Mandrels, Cutting Gauges, Lathe Knives, Hand and Foot
Presses, Calender Attachments, Stock Cutting Machines,
Tubing Machine Dies and Pins, Trimming Dies, Hand
Stitchers and Rollers, Experimental Mills, Etc. . . .

73-75 WEST JACKSON BOULEVARD
CHICAGO, ILL.

Mention The India Rubber World when you write.

Embossing Calenders

For Artificial Leather, Table Oil Cloth,
and Carriage Covers.

Drying Machines

with Copper Cylinders for Cotton Duck,
Drills and Sheetting.

THE TEXTILE-FINISHING MACHINERY CO.,

PROVIDENCE R. I.

Southern Agent, STUART W. CRAMER,

Trust Bldg., Charlotte, N. C.

Equitable Bldg., Atlanta, Ga.

Mention The India Rubber World when you write.

Calender Roll Engraving.

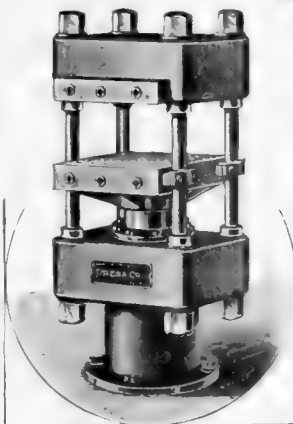
MOLDS,
Cutting Dies,
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and Plates.



Hand Rollers,
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Stitchers,
Sheet Rubber
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THE HOGGSON & PETTIS MFG. CO.,
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J. H. LANE & CO.,

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WIDE**DUCKS**PAPER FELTS
OUNCE GOODS
ARMY DUCK
OSNABURGS**AUTOMOBILE
AND BICYCLE****TIRE FABRICS****SHEETINGS AND DRILLS, SEA ISLAND, EGYPTIAN, AND PEELER YARNS,
AND FABRICS IN REGULAR AND SPECIAL CONSTRUCTION.***Mention The India Rubber World when you write.***Vacuum Drying
Apparatus**

FOR

Sheet and Reclaimed Rubber**EMIL PASSBURG SYSTEM**The Passburg (Patent) "VACUUM DRYING
APPARATUS" is no experiment.They are installed in all of the principal rubber
manufactories of Europe.200 chambers in daily operation drying rubber
and rubber compounds.

Particulars upon application.

JOSEPH P. DEVINE,

314 Mooney-Brisbane Bldg.

BUFFALO, N. Y.

SOLE MANUFACTURING RIGHTS FOR AMERICA

**Handwork is costly
and inaccurate.****Anything that the hands can do
can be done by Machinery.****No Problem is too Difficult for us.****Do you want a Machine for any
Purpose in Rubber Work?****Write to us and we will Produce it****WELLMAN SOLE CUTTING MACHINE CO.,
MEDFORD, MASSACHUSETTS.**

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*Mention The India Rubber World when you write.***L. J. WING MANUFACTURING CO.**

136 LIBERTY ST., NEW YORK.

Manufacturers of

Wing's Disc Fans, Exhausters, Blowers,

Heaters, Electric Motors, High Speed

Engines, Marine and Stationary

Gas Engines, Acetylene

Generators, etc.

SEND FOR CATALOGUES AND REFERENCE LIST.

Mention The India Rubber World when you write.**THE MASON****Reducing Valves****ARE THE WORLD'S STANDARD VALVES.**For automatically reducing and absolutely
maintaining an even steam or air pressure.*They are adapted for every need and guaranteed
to work perfectly in every instance.*WRITE FOR FULL INFORMATION AND
SPLENDID REFERENCES.**THE MASON REGULATOR CO. Boston,
Mass., U.S.A.**

Publishers' Page

OFFICES:

No. 150 NASSAU ST., NEW YORK

Our Bound Volumes.

THE monthly numbers of THE INDIA RUBBER WORLD for its sixteenth year, ending with the issue of September 1, have been bound in a handsome and substantial volume, which can hardly fail to be an addition of value to the library of any one interested in rubber, in whatever branch. The volume referred to contains 428 large double column pages, and is filled for the most part with original matter, prepared with care by a number of experts in rubber interests and competent as writers. There is scarcely a question connected with the rubber manufacture that has not received attention in THE INDIA RUBBER WORLD during the year, and many new inventions and applications of rubber have been described and illustrated. Practical questions regarding the treatment of rubber in the various stages from the forest to mill room have been discussed, and much attention has been given to the sources of rubber, both in the forest and on plantations. The Editor has continued his letters of travel, relating largely to sources of rubber, and other correspondents from various countries have contributed notes of the same general character. The News columns of the paper have formed a very comprehensive history of the progress of the industry in the United States and abroad during the year, embracing a record of new companies and changes among the old, with very many personal notes of interest for present and future reference. The statistics of rubber have been more comprehensive than have appeared elsewhere, and have been largely quoted in various journals and other publications relating to rubber.

The price of this volume is \$5, carriage paid.

When To Send In Advertising "Copy."

OUR advertisers would confer a great favor upon the Publisher if, in sending in "copy" for changes, they would endeavor to do so as long as possible in advance of the date of publication—which is the last day of the month. We do not desire to fix any arbitrary rule as to the latest date in the month on which advertising copy will be received, for reasons may develop, just before the printing of the paper, to make a change of advertisement desirable. At the same time it will add to the convenience of the business office if those who intend sending in advertising "copy" will consider, not the latest date on which it can be handled, but the earliest date on which it can be furnished. Time should be allowed for sending proofs to the advertiser.

Back Numbers Wanted.

WHILE we endeavor each month to have printed a sufficient number of copies of THE INDIA RUBBER WORLD to meet all demands, a shortage will occur now and then in our reserve supply. We now desire a few copies, in good condition, of the following issues:

December, 1904	April, 1905	June, 1905
January, 1905	May, 1905	August, 1905

—for which we shall be pleased to pay 25 cents each in cash, or credit this amount upon subscription accounts.

A Reference Book for the Factory.

BUYERS of books designed to contain information are not necessarily in search of something that they do not already know. It is often a great convenience to have at hand, in convenient form for reference, a book that will remind a man of something which he needs to make use of in his work or business, without waiting to ransack his memory for it no matter how well he may once have learned it. Mr. Pearson's "Crude Rubber and Compounding Ingredients" has been designed to serve just such a purpose. In fact, the book was a gradual development of a manu-

script reference book originally compiled by the author for his personal use alone. Finding how convenient it was to be able to turn to such a book, instead of having to depend on memory alone for the information it contained, the idea suggested itself that possibly others interested in the rubber industry might find these notes equally serviceable, and this is why they have been developed into a book. The reception of the book has been encouraging, and it may interest some who do not yet possess a copy of the book to know how some practical rubber workers regard it. A young man who wrote to the author for a formula, wrote later: "On looking over your book, I came across the same formula and several others, which might have saved my troubling you with my inquiry. I have had the book but a short time, but find it of the greatest value to me." A superintendent writes: "It is a work that I want on my desk all the time, as it is surprising how often one wants to refer to it." The manager of an important concern writes of the book: "Its value has grown on me; I now keep it by me in the factory and use it constantly, both for reference and suggestion."

Encouraging Rubber Culture.

TO THE INDIA RUBBER WORLD—*Gentlemen*:—We greatly appreciate the efforts your paper is making in the line of encouraging rubber culture. Yours very truly,

THE CHICAGO RUBBER PLANTING CO.

Chicago, Illinois, September 29, 1905.

N. H. BAAM, Secretary.

Read the Advertisements Every Month.

THERE are a good many advertisements in THE INDIA RUBBER WORLD this month of firms whose announcements have appeared regularly in every issue since our "Vol. I—No. 1" was printed, back in 1889. But there have been many changes in their form meanwhile. Some advertisers change the reading matter in their spaces every month. We, ourselves, often find in the advertising pages the most interesting reading in the paper, and we can assure the trade that it is a mistake to suppose that, because one has read the advertisement in THE INDIA RUBBER WORLD once, there is nothing new to be found in this department of the paper.

Our Buyer's Directory.

WE are constantly in receipt of inquiries from firms or persons not in the rubber trade, but who desire to form business connections with some branch or other of that trade, for lists of rubber manufacturers or dealers. Often these inquirers are in a position to become buyers; others have something to sell. The answer usually made is to call attention to the "Buyers' Directory of the Rubber Trade," which appears regularly in THE INDIA RUBBER WORLD, and which contains the names and addresses of the leading firms in the different branches of the rubber business. Doubtless business results from the information thus given. We know that the "Buyers' Directory" is much consulted by subscribers to the paper, who have become accustomed to looking into it for the sort of information which it contains. It cannot fail to benefit rubber manufacturers, therefore, and others who may wish to keep in touch with the rubber manufacturing interest, to be included in this "Directory," for which reason we invite those members of the trade whose names do not appear there already, to give this department of the paper a careful examination, and to consider the advantage which might result from their being represented in it.

Specimen Copies.

IT will cost nothing for any one who is interested in any way in the India-rubber and allied trades to secure a specimen copy of THE INDIA RUBBER WORLD. Each of our present readers might do a good turn to a friend by sending in his name, for the receipt of a specimen paper, in case he is not already a subscriber.

THOUSANDS OF PLANTS

Are Still Operated by Mechanically Transmitted Power to the Detriment of Light and Ventilation.

In nearly all classes of work there is some advantage in the omission of all or nearly all the belts and shaft hangers which are commonly used. In silk mills, paper mills, confectionery factories or laundries, for example, it is of the greatest importance that the goods which are being manufactured are kept perfectly clean, and so long as there are shaft hangers or belts overhead it is absolutely impossible to avoid a certain amount of dirt and injury to the goods. The almost perfect cleanliness of an establishment where the electric drive is carefully worked out is something which one needs to see in order to fully appreciate it. Moreover, the absence of this dirt in the air is bound to be more healthful to the employes, and the amount of light available, and consequently the quality of the work wherever belts are omitted, is very greatly increased. "*Electric Power in Factories.*" A copy sent free upon request. Stanley-G. I. Electric Mfg. Company, Pittsfield, Mass.

STEPHEN P. SHARPLES,

ANALYTICAL AND CONSULTING
CHEMIST.

**Twenty-five Years' Experience in
Methods for Recovering Rubber
from Waste.**

**Analysis Made of Compounded
Rubbers.**

==

OFFICE:

No. 26 Broad Street, Boston, Mass.



R. GEORGE E. HEYL-DIA, formerly Chief Chemist and Managing Engineer of W. T. Glover & Co.'s works at Salford, Manchester, England, founder and managing director of the St. Helens Cable Co., etc., begs to announce to the American Rubber trade that he has equipped a Laboratory for Analyses and Tests, and may be seen at Nos. 95-97 Liberty St., Room 404, N. Y., by appointment. Problems in Rubber Analysis, Vulcanization, Factory Engineering, Substitutes, and Processes successfully solved. Advice as to factory and net costs given. Correspondence invited.

Small Advertisement Department.

SITUATIONS WANTED.

A COMPOUNDER desires a position. Up to date on all lines of Tires, Mechanical and Molded Goods. Thoroughly understands Rubber from the crude to the finished product. Address W. G., care of THE INDIA RUBBER WORLD. [845]

ASSISTANT SUPERINTENDENT OR MANAGER.—A thoroughly competent young man with 16 years' experience in the Mechanical line, capable to manufacture new lines of Rubber Goods, is open for a position as Assistant Superintendent or Manager. Address H. G. U., care of THE INDIA RUBBER WORLD. [846]

A MAN with 10 years' experience on Pneumatic and Solid Tires as Superintendent and General Factory Manager, with one of the best known companies, is open for engagement. Best of references. Address X. Y. Z., care of THE INDIA RUBBER WORLD. [841]

A MAN 34, qualified by 14 years' experience as Superintendent, Manager, and in general practical direction is open for engagement. Experience covers all classes of Mechanical Goods, Sundries, and Tires. Would prefer connection with small factory having sufficient capital for development. Manager or Superintendent of department in large factory, or branch house would be acceptable. Address N. A. C., care of THE INDIA RUBBER WORLD. [831]

MANAGER or BUYER.—A good all round business man, having extensive experience in substitutes, crude rubbers, gutta-perchas, and similar gums, thoroughly posted on all methods of financing purchases, and very expert on qualities, desires employment on salary and commission or its equivalent. The advertiser has knowledge that must insure greater financial success to any concern, such as a way to keep goods containing Pontianak tough for years, a dry method of keeping goods soft, etc. Address ENERGETIC, care of THE INDIA RUBBER WORLD. [827]

MILL FOREMAN—Englishman, 28, with life experience of all kinds, calendering, mixing, etc., seeks position as above. Good references; England preferred; moderate wages for permanent position. Address C. L. B., care of THE INDIA RUBBER WORLD. [842]

POSITION wanted in the United States by a gentleman understanding the chemistry of India-rubber. Speaks German, French, Italian, and English. Address C. I. A., care of THE INDIA RUBBER WORLD. [843]

SUPERINTENDENT or ASSISTANT SUPERINTENDENT.—Wanted a position as Superintendent or Assistant Superintendent by a man with 19 years' experience in the Druggists' Rubber Sundries line. Address H., care of THE INDIA RUBBER WORLD. [844]

SITUATIONS OPEN.

ASSISTANT MANAGER wanted for the Sales Department of a large Mechanical Rubber goods factory. Address, giving full particulars, A. T. M., care of THE INDIA RUBBER WORLD. [838]

FOREMAN.—Wanted a strictly first-class Machine Shop Foreman. One who has had experience in first-class Rubber Mills, and thoroughly familiar with the making of Molds and supervising the repairs of Rubber Machinery. In answering, please give age, experience, mills worked in, amount of salary wanted. Must furnish first-class references as to ability and reliability. Address MACHINIST, care of THE INDIA RUBBER WORLD. [837]

BUSINESS OPPORTUNITY.

A GERMAN HOUSE established for more than ten years in the sale of American Rubber Footwear, and now holding the agency of the United States Rubber Co., is open to accept the Representation of American manufacturers of Rubber Novelties, such as may be carried in connection with the goods now handled. Address EKERT BROTHERS, bei den Muhren 48, Hamburg, Germany. [781]

HIGH GRADE, rapidly growing company would entertain active salaried associate with moderate capital. Net solid assets \$140,000; volume \$350,000. Address BUSINESS, care of THE INDIA RUBBER WORLD. [839]

WELL known Liverpool and reputable firm of India-rubber Merchants and Importers are open to buy on commission for good American and otherwise act as required, etc. Address LIVERPOOL, care of THE INDIA RUBBER WORLD. [813]

BUSINESS OPPORTUNITY.

WILL dispose of three new and valuable Rubber Tire Fastener patents on liberal terms. Splendid opportunity for Rubber Manufacturers or the organization of a company to manufacture. Investigation solicited. Address TIRE FASTENER, care of THE INDIA RUBBER WORLD. [840]

RUBBER LAND.

5000 acres of the finest land in Mexico. This property was purchased some years ago before the boom in Mexican lands began. It was selected after an inspection of hundreds of properties. It is therefore the very cream of the rubber belt and unsurpassed both in soil and location. It fronts on a navigable river and is only a few miles from the railroad. Will be sold at a very reasonable price, and, to responsible persons, on very reasonable terms. This is a chance for a man with some means to make a fortune from a plantation company. Address R. M., care of "The India Rubber World." [828]

FOR SALE.

A LARGE lot of Rubber Mill Machinery, practically as good as new, has been in use only a short time. Calenders, Grinders, Sheeters, Crackers, Washers, Presses, Sturtevant Fans and Buffalo Forge Fans (all sizes). Four large Engines practically as good as new, very little used in Rubber Factories that went out of business. Pulleys, Shafting, and all kinds of second hand Rubber Mill Machinery. I could fit up two or three fair size Mills at the present. PHILIP MCGRORY, Trenton, N. J.

FOR SALE.—First-class Cement Churns or Mixers at half value. Address JOSEPH WHITNEY, 48 North Front St., Philadelphia, Pa. [680]

FOR SALE.—Factory Rubber Waste from Rubber Cement; cleaned at a low price; sample sent free. UNITED STATES WASTE RUBBER CO., No. 487 North Warren Avenue, Brockton, Mass.

GRINDERS. Two 15 × 36 chilled roll Birmingham Mills; one 5' × 11' Vulcanizer or Devulcanizer, hinged door and bolts, tested 150. W. C. COLEMAN CO, Rochelle Park, New Jersey.

FOR RENT.

FOUR Floors, 50 × 70 feet, in a nearly new brick factory building. Equipped with line shafting on each floor; Automatic Sprinklers throughout the building; Houser freight elevator; light, heat, and power furnished. For particulars write WILLIAM YERDON, Fort Plain, New York. [798]

CONSULTING SUPERINTENDENT.

SUPERINTENDENT who has had nearly 20 years' experience in the Mechanical and Reclaiming business will act as Consulting Superintendent. If you want recipes of any kind, or want to match other makes of goods, want to reduce the cost of the goods you are now making, or are having trouble with any of your stocks, write me confidentially. Address B. C. O., care of THE INDIA RUBBER WORLD. [749]

**Bound Yearly Volumes of
The India Rubber World
For Sale at This Office
PRICE \$5 EACH, PREPAID.**

THE GOODYEAR TIRE AND RUBBER CO. (Akron, Ohio) have issued a new pamphlet descriptive of their tires, the pages of which are cut into shape to represent in cross section the company's automobile tire and Universal rim, which is one of the distinct recent novelties in automobile tire construction, and which furthermore appears to be thoroughly practical and has been well received in the trade. [6½" x 8½". 16 pages.]

HIDALGO

**A RUBBER AND COFFEE INVESTMENT
PAYING SIX PER CENT. INTEREST
ON INSTALLMENT AND CASH SHARES**

This Company is under the same management which has made
La Zacualpa Rubber Plantation an acknowledged success.

FOR PARTICULARS AND PRINTED MATTER ADDRESS

HIDALGO PLANTATION AND COMMERCIAL COMPANY

713 MARKET STREET, SAN FRANCISCO, CALIFORNIA

Mention The India Rubber World when you write.

THE MEXICAN MUTUAL PLANTERS COMPANY

Invites attention to the following facts relating to the
planting on its plantation "La Junta," of 5554 acres,
in the Trinidad Valley, Isthmus of Tehuantepec.

RUBBER.		COFFEE.		CACAO.	
	Acres.		Acres.		Acres.
4 years old, - - - -	455.26	4 years old, - - - -	29.64	5 years old, - - - -	7.5
3 years - - - - -	390.99	1 year - - - - -	285.77	2 years - - - - -	36.
2 years - - - - -	380.49		315.41	1 year - - - - -	83.29
1 year - - - - -	851.58	Contracted, 1905,	142.		126.79
	2078.32		457.41	Contracted, 1905,	100.
Contracted, 1905,	741.	Approximately 450,000 trees.			226.79
	2819.32			Approximately 40,000 trees.	
Approximately 2,000,000 Trees.		Cleared and planted to tame grasses for cattle and horses, 1190 Acres.			

WE began our planting in 1900 and complete it in 1905, making, we believe, the largest planting of cultivated rubber in the world.

We have not paid dividends—the trees must grow first.

We expect to pay a dividend in 1907. From that time we believe they will increase rapidly and afford returns that will amply justify and reward the faith and patience of our investors.

DIVIDENDS WILL BE PAID ONLY WHEN EARNED.

We have a few of our plantation bonds for sale, and will be pleased to furnish full information to those interested.

Address: MEXICAN MUTUAL PLANTERS COMPANY,
910 Journal Building, CHICAGO, ILLINOIS.

HERBERT S. KIMBALL,
MILL ARCHITECT and ENGINEER,
RUBBER FACTORY ENGINEERING.
101 TREMONT STREET, BOSTON, MASS.

LE CAOUTCHOUC & LA GUTTA-PERCHA
49, Rue des Vinaigriers, 49,
PARIS (10e), FRANCE.

The only Journal in the French language dealing with India-Rubber and Gutta-percha and the industries connected therewith, including Asbestos, Celluloid, and Insulating Materials.

Published on the 15th of each month.

ANNUAL SUBSCRIPTION: 26 FRANCS.

An unexcelled advertising medium for firms wishing to introduce their products into France and the French colonies.

Specimen copies free. Tariff of advertisements on demand.

Mention *The India Rubber World* when you write.



A TEXT BOOK
OF THE
RUBBER
MANUFACTURE
BY THE EDITOR
OF THE
INDIA RUBBER WORLD

A COPY OF THE
INDEX TO THIS
VALUABLE WORK
WILL BE SENT
FREE ON REQUEST

THE INDIA RUBBER PUBLISHING CO.,
No. 150 NASSAU STREET, NEW YORK.

RUBBER

and other Tropical Seeds and Plants.

Hevea Brasiliensis (Pará rubber) seeds supplied from August to October every year; booking necessary before the end of July to avoid disappointments. Stumps of both kinds shipped all the year round.

Castilloa Elastica seeds from June to October delivery.

Manihot Glaziovii (Ceará rubber) seeds supplied always, *Ficus elastica*, *Landolphia Kirkii*, *Funtumia elastica*, *Uncaria esculenta*, and other Rubber seeds and plants available several times in the year.

Tea of different sorts, Hybrid Coffee, Nutmeg, Fibers, Shade and Timber trees; Fruits, etc.—Seeds, Plants and Grafts supplied. Six different descriptive Price Lists, with special offers of *Hevea* and *Castilloa* seeds and stumps, on view at the office of THE INDIA RUBBER WORLD, or post free on application to

J. P. WILLIAM & BROTHERS,

Tropical Seed Merchants, HENERATGODA, CEYLON.

TELEGRAPHIC ADDRESS: WILLIAM, HENERATGODA, CEYLON.

THE TROPICAL AGRICULTURIST

and Magazine of the Ceylon Agricultural Society.

THE TROPICAL AGRICULTURIST (fully illustrated) is now an official publication with special scientific papers in addition to many of its old features.

Edited by DR. J. C. WILLIS,

Director of the Royal Botanic Gardens, Ceylon.

RUBBER CULTIVATION AND THE CHEMISTRY OF RUBBER.

form one of the features of the journal; full information on Ceylon and Malay Peninsula methods and progress. All about Tea, Coffee, Cacao, Tobacco, Cinchona, Cinnamon, Fibre Plants, Coconuts and other Palms, Citronella, Lemon Grass and Essential Oil grasses, and all tropical products.

Rates of Subscription for America, including Postage.

YEARLY, \$5.50. IN ADVANCE, \$5.00.

HALF YEARLY, \$3.00. \$2.60.

THE TROPICAL AGRICULTURIST circulates throughout the world, especially in the Tropics, and is a first-class advertising medium. The rates being very moderate. Special advantageous terms to American advertisers.

A. M. and J. FERGUSON, "Ceylon Observer" offices, Colombo, Ceylon.

Manuals and Publications on all Tropical Planting Subjects.

Mention *The India Rubber World* when you write.

Bound Yearly Volumes of
The India Rubber World
For Sale at This Office
PRICE \$5 EACH, PREPAID.

SIR JOHN RAMSAY.—A correspondent of London *Commercial Intelligence*, writing from Penang (May 26) said: "I have just arrived here from a trip through the Federated Malay States. As you are aware, considerable interest is being taken in the cultivation of rubber in these States, and I saw very large tracts planted with Pará rubber. One of the largest, and certainly the finest, plantation I came through is the property of Sir John Ramsay. This estate is situated in Perak, and contains thousands of healthy trees that will be ready for tapping in a year or two."

NEW JERSEY RUBBER COMPANY,
MANUFACTURERS OF ALL KINDS OF

RECLAIMED * RUBBER,

Auxiliary Plant for Trimmings, daily Capacity of 20,000 Pounds. Total daily Capacity 45,000 Pounds.

Office and Factories, LAMBERTVILLE, NEW JERSEY.

Mention *The India Rubber World* when you write.

LASTS FOR RUBBER SHOES **LAST**
DESIGNING
A
SPECIALTY
MIDDLESEX LAST CO., Boston, Mass., U. S. A.

THERE IS NOTHING BETTER



for weaving fabric jackets for fire-hose and the like, than the deLaski Circular Loom. All sizes of tubular fabric from $\frac{1}{2}$ in. to $3\frac{1}{2}$ in. triple jacket can be woven, as well as coverings around solid cores; electric cables, etc. Its productive capacity is very large, and its variable adaptability renders its usefulness a feature beyond measure. Write us, and let us tell you all about it.

JOHN ROYLE & SONS,
PATERSON, N. J., U. S. A.

Mention The India Rubber World when you write.

The Rich Rubber Fields of PERU are Ripe for Development

THE limit has been reached in the production of Rubber in Brazil, but the world's demands for this material continue to increase, and new fields will have to be worked. It is necessary only to ascend the Amazon a little further to reach virgin forests in Peru containing millions of Para Rubber and Caucho trees which have never been tapped, and which will yield more freely than the long worked trees nearer Para. A very large tract has been obtained from the government by an American company which is now developing it, for which work some additional capital is invited, on most favorable terms. Write for detailed information.

Peru-Para Rubber Co.,

16-41 Unity Building, Chicago.

Mention The India Rubber World when you write.

FABRIC FIRE HOSE COMPANY,

Corner Duane and Church Streets,
NEW YORK.

Patentees and Sole Manufacturers

Wax and Para Gum Treated
Rubber Lined Cotton
FIRE AND MILL HOSE.



KEYSTONE BRAND
GUARANTEED UNDERWRITERS'
HOSE.

Endorsed as Standard by
**ASSOCIATED FACTORY MUTUAL FIRE
INSURANCE CO.**

Mention The India Rubber World when you write.

BUYERS' DIRECTORY OF THE RUBBER TRADE.

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Mats and Matting.
Mould Work.
Packing.
Valves.
Washers.

Mechanical Rubber Goods—General.

Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Bowers Rubber Co., San Francisco, Cal.
Canadian Rubber Co. of Montreal.
Chicago Rubber Wks., Chicago.
Cleveland Rubber Co., Cleveland, O.
Combination Rubber Mfg. Co., Bloomfield, N. J.
Continental Caoutchouc & Gutta-percha Co., Hanover, Germany.
Empire Rubber Mfg. Co., Trenton, N. J.
Eureka Fire Hose Co., New York.
Eureka Rubber Mfg. Co. of Trenton.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
Gutta Percha & Rubber Mfg. Co., Toronto.
Home Rubber Co., Trenton, N. J.
Lake Shore Rubber Co., Erie, Pa.
Liverpool Rubber Co., Liverpool, Eng.
Manhattan Rubber Mfg. Co., New York.
Mechanical Rubber Co., New York.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
North British Rubber Co., Ltd., Edinburgh.
Peerless Rubber Mfg. Co., New York.
Pirelli & Co., Milan, Italy.
Republic Rubber Co., Youngstown, Ohio.

MECHANICAL GOODS.

Revere Rubber Co., Boston.
Springfield Tire & Rubber Co., Springfield, Ohio.
Jos. Stokes Rubber Co., Trenton, N. J.
Trenton Rubber Mfg. Co., Trenton, N. J.
Voorhees Rubber Mfg. Co., Jersey City

Air Brake Hose.

Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Combination Rubber Mfg. Co., Bloomfield, N. J.
Eureka Rubber Mfg. Co. of Trenton.
B. F. Goodrich Co., Akron, O.
Home Rubber Co., Trenton, N. J.
N. J. Car Spring & Rubber Co., Jersey City.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, Ohio.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City

Belting (Canvas).

Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Eureka Fire Hose Co., New York.
Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Boston New York

Billiard Cushions.

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
Combination Rubber Mfg. Co., Bloomfield, N. J.
B. F. Goodrich Co., Akron, O.
Manhattan Rubber Mfg. Co., New York.
New York Belting & Packing Co., Ltd.
New York Rubber Co., New York.
Revere Rubber Co., Boston-New York.

Blankets—Printers'.

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
Hodgman Rubber Co., New York.
Liverpool Rubber Co., Liverpool, Eng.
N. J. Car Spring & Rubber Co., Jersey City, N. J.

MECHANICAL GOODS.

Blankets—Printers'—Continued.

Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.
Brushes.
C. J. Bailey & Co., Boston.

Buffers.

Boston Belting Co., Boston-New York.
Canadian Rubber Co. of Montreal.
Liverpool Rubber Co., Ltd., Liverpool

"Bull Dog" Packing.

Boston Woven Hose & Rubber Co.

Card Cloths.

Canadian Rubber Co. of Montreal.
Mechanical Fabric Co., Providence, R. I.

Carriage Mats.

Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
B. F. Goodrich Co., Akron, O.
Home Rubber Co., Trenton, N. J.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
Peerless Rubber Mfg. Co., New York.
Voorhees Rubber Mfg. Co., Jersey City

Cord (Pure Rubber).

Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Cleveland Rubber Co., Cleveland, O.
Davol Rubber Co., Providence, R. I.
Empire Rubber Mfg. Co., Trenton, N. J.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

MECHANICAL GOODS.

Deckle Straps.

Boston Belting Co., Boston.
Liverpool Rubber Co., Liverpool, Eng.
Mechanical Rubber Co., Chicago.
New York Belting & Packing Co., N. Y.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.

"Dods" Packing.

Bowers Rubber Co., San Francisco, Cal.

Door Springs.

Hodgman Rubber Co., New York.

Dredging Sleeves.

Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
B. F. Goodrich Co., Akron, O.
Home Rubber Co., Trenton, N. J.
N. J. Car Spring & Rubber Co., Jersey City.
Republic Rubber Co., Youngstown, O.

Force Cups.

Hodgman Rubber Co., New York.

"Forsyth" Combination Packing.
Boston Belting Co., Boston-New York.

Fruit Jar Rings.

Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
B. F. Goodrich Co., Akron, O.
Empire Rubber Mfg. Co., Trenton, N. J.
Eureka Rubber Mfg. Co. of Trenton.
Manhattan Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, Ohio.
New York Belting & Packing Co., N. Y.

Fuller Balls.

B. F. Goodrich Co., Akron, O.
N. J. Car Spring & Rubber Co., Jersey City.

RUBBER BUYERS' DIRECTORY—CONTINUED.

MECHANICAL GOODS.

Fuller Balls—Continued.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.

Gage Glass Washers.

Boston Belting Co., Boston, Mass.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Empire Rubber Mfg. Co., Trenton, N. J.
Home Rubber Co., Trenton, N. J.
Liverpool Rubber Co., Liverpool, Eng.
Manhattan Rubber Mfg. Co., New York.
Mechanical Rubber Co., Chicago, Ill.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Revere Rubber Co., Boston, Mass.
Jos. Stokes Rubber Co., Trenton, N. J.
Voorhees Rubber Mfg. Co., Jersey City, N. J.

Gas-Bags (Rubber).

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Liverpool Rubber Co., Liverpool, Eng.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
Peerless Rubber Mfg. Co., New York.
Tyer Rubber Co., Andover, Mass.
Voorhees Rubber Mfg. Co., Jersey City.

Gasket Tubing.

Canadian Rubber Co. of Montreal.
Jenkins Bros., New York.

Hat Bags.

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
Mattson Rubber Co.
Mechanical Rubber Co., Chicago.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston.

Horse Shoe Pads.

Canadian Rubber Co. of Montreal.
Home Rubber Co., Trenton, N. J.
Peerless Rubber Mfg. Co., New York.
Plymouth Rubber Co., Stoughton, Mass.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Hose—Armored.

Hose—Wire Wound.

Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
B. F. Goodrich Co., Akron, O.
N. J. Car Spring & Rubber Co., Jersey City.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Hose Couplings and Fittings.

Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.

Hose Linings.

Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Empire Rubber Mfg. Co., Trenton, N. J.
Eureka Rubber Mfg. Co., Trenton, N. J.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
Peerless Rubber Mfg. Co., New York.

Hose—Protected.

Boston Belting Co., Boston-New York.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Hose Racks and Reels.

Wirt & Knox Mfg. Co., Philadelphia.

Hose Rubber Lined.

COTTON AND LINEN.

Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.

MECHANICAL GOODS.

Hose—Rubber Lined. Continued.

COTTON AND LINEN.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Empire Rubber Mfg. Co., Trenton, N. J.
Eureka Fire Hose Co., New York.
Eureka Rubber Mfg. Co. of Trenton.
Fabric Fire Hose Co., New York.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
Gutta Percha and Rubber Mfg. Co. of Toronto.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston.
Jos. Stokes Rubber Co., Trenton, N. J.
Voorhees Rubber Mfg. Co., Jersey City.

Hose—Submarine.

Boston Belting Co., Boston-New York.
B. F. Goodrich Co., Akron, O.
Republic Rubber Co., Youngstown, O.

"Jenkins '96" Packing.

Jenkins Bros., New York.

Lawn Sprinklers.

Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.

Mallets (Rubber).

Boston Belting Co., Boston-New York.
B. F. Goodrich Co., Akron, O.
Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Boston-New York.

Mould Work.

[See Mechanical Rubber Goods.]

Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
Faultless Rubber Co., Akron, O.
Hardman Rubber Co., Belleville, N. J.
Hodgman Rubber Co., New York.
La Crosse (Wis.) Rubber Mills Co.
Mattson Rubber Co., New York.
Mitzel Rubber Co., Akron, O.
National India Rubber Co., Bristol, R. I.
Plymouth Rubber Co., Stoughton, Mass.
Tyer Rubber Co., Andover, Mass.

"Nubian" Packing.

Voorhees Rubber Mfg. Co., Jersey City.

Oil Well Supplies.

Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
B. F. Goodrich Co., Akron, O.
Home Rubber Co., Trenton, N. J.
Lake Shore Rubber Co., Erie, Pa.
N. J. Car Spring & Rubber Co., Jersey City.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-Pittsburgh.
Voorhees Rubber Mfg. Co., Jersey City.

Paper Machine Rollers.

Boston Belting Co., Boston-New York.
B. F. Goodrich Co., Akron, O.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Peerless Rubber Mfg. Co., New York.
Voorhees Rubber Mfg. Co., Jersey City.

"Perfection" Belting.

Boston Woven Hose & Rubber Co.

Plumbers' Supplies.

Canadian Rubber Co. of Montreal.
B. F. Goodrich Co., Akron, O.
Republic Rubber Co., Youngstown, O.

Pump Valves.

[See Mechanical Rubber Goods.]

Jenkins Bros., New York.

"Rainbow" Packing.

Peerless Rubber Mfg. Co., New York.

MECHANICAL GOODS.

Rollers—Rubber Covered.

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Empire Rubber Mfg. Co., Trenton, N. J.
Eureka Rubber Mfg. Co. of Trenton.
B. F. Goodrich Co., Akron, O.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
Mechanical Rubber Co., Chicago.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Plymouth Rubber Co., Stoughton, Mass.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.

Sewing Machine Rubbers.

B. F. Goodrich Co., Akron, O.

Springs—Rubber.

Boston Belting Co., Boston-New York.
Canadian Rubber Co. of Montreal.
B. F. Goodrich Co., Akron, O.
Hardman Rubber Co., Belleville, N. J.
Liverpool Rubber Co., Liverpool, Eng.
N. J. Car Spring & Rubber Co., Jersey City.
Peerless Rubber Mfg. Co., New York.
Plymouth Rubber Co., Stoughton, Mass.
Republic Rubber Co., Youngstown, Ohio.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Stair Treads.

Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Empire Rubber Mfg. Co., Trenton, N. J.
Home Rubber Co., Trenton, N. J.
Liverpool Rubber Co., Liverpool, Eng.
Manhattan Rubber Mfg. Co., New York.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Thread.

Mechanical Fabric Co., Providence, R. I.
Revere Rubber Co., Boston.

Tiling.

Canadian Rubber Co. of Montreal, Ltd.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
N. J. Car Spring & Rubber Co., Jersey City.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, Ohio.
Voorhees Rubber Mfg. Co., Jersey City.

Tires.

AUTOMOBILE, BICYCLE, AND CARRIAGE.

Canadian Rubber Co. of Montreal, Ltd.
Continental Caoutchouc & Guttapercha Co., Hanover.
Empire Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., Toronto.
Kokomo Rubber Co., Kokomo, Ind.
Lake Shore Rubber Co., Erie, Pa.
Liverpool Rubber Co., Liverpool, Eng.
North British Rubber Co., Ltd., Edinburgh.
Plymouth Rubber Co., Stoughton, Mass.
Republic Rubber Co., Youngstown, O.

AUTOMOBILE AND CARRIAGE.

Boston Belting Co., Boston-New York.
Eureka Rubber Mfg. Co., Trenton, N. J.
Michelin Tire American Agency, N. Y.
Revere Rubber Co., Boston-New York.
Springfield Tire & Rubber Co., Springfield, Ohio.

Truck Bands.

Boston Belting Co., Boston.
Cleveland Rubber Co., Cleveland, O.

MECHANICAL GOODS.

Truck Bands—Continued.

Empire Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
Mechanical Rubber Co., Chicago.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Voorhees Rubber Mfg. Co., Jersey City.

Tubing.

[See Mechanical Rubber Goods.]

American Hard Rubber Co., New York.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
Hardman Rubber Co., Belleville, N. J.
Plymouth Rubber Co., Stoughton, Mass.
Tyer Rubber Co., Andover, Mass.

"Usudurian" Packing.

Revere Rubber Co., Boston-New York.

Valve Balls.

Boston Belting Co., Boston.
Cleveland Rubber Co., Cleveland, O.
Manhattan Rubber Mfg. Co., New York.
Mechanical Rubber Co., Chicago.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.

Valve Discs.

American Hard Rubber Co., New York.
Boston Belting Co., Boston-New York.
B. F. Goodrich Co., Akron, O.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.

Valves.

[See Mechanical Rubber Goods.]

Jenkins Bros., New York-Chicago.
Plymouth Rubber Co., Stoughton, Mass.

Wringer Rolls.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
B. F. Goodrich Co., Akron, O.
Home Rubber Co., Trenton, N. J.
Republic Rubber Co., Youngstown, O.

DRUGGISTS' AND STATIONERS' SUNDRIES

Atomizers.

Bandages.

Bulbs.

Syringes.

Water Bottles.

Druggists' Sundries—General.

American Hard Rubber Co., New York.
C. J. Bailey & Co., Boston.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Hardman Rubber Co., Belleville, N. J.
Hodgman Rubber Co., New York.
Mitzel Rubber Co., Akron, O.
North British Rubber Co., Ltd., Edinburgh.
Pirelli & Co., Milan, Italy.
Seamless Rubber Co., New Haven, Ct.
Tyer Rubber Co., Andover, Mass.

Balls, Dolls and Toys.

Canadian Rubber Co. of Montreal.
Continental Caoutchouc & Guttapercha Co.
B. F. Goodrich Co., Akron, O.
New York Rubber Co., New York

RUBBER BUYERS' DIRECTORY—CONTINUED.

DRUGGISTS' SUNDRIES

Combs.

American Hard Rubber Co., New York

Elastic Bands.

Canadian Rubber Co. of Montreal.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York-Boston
Tyer Rubber Co., Andover, Mass.

Erasive Rubbers.

Davidson Rubber Co., Boston.
B. F. Goodrich Co., Akron, O.
Hardman Rubber Co., Belleville, N. J.
Mattson Rubber Co., New York.

Finger Cots.

Faultless Rubber Mfg. Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Pure Gum Specialty Co., Barberton, O.

Gloves.

Canadian Rubber Co. of Montreal.
Daval Rubber Co., Providence, R. I.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Pure Gum Specialty Co., Barberton, O.

Hard Rubber Goods.

American Hard Rubber Co., New York.
Canadian Rubber Co. of Montreal.
Daval Rubber Co., Providence, R. I.
Hardman Rubber Co., Belleville, N. J.
Stokes Rubber Co., Joseph, Trenton, N. J.
Tyer Rubber Co., Andover, Mass.

Hospital Sheetings.

Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence, R. I.
Hodgman Rubber Co., New York.
Plymouth Rubber Co., Stoughton, Mass.
Tyer Rubber Co., Andover, Mass.

Hot Water Bottles.

[See Water Bottles.]

Ice Bags and Ice Caps.

Faultless Rubber Co., Akron, Ohio.
B. F. Goodrich Co., Akron, O.
Hardman Rubber Co., Belleville, N. J.
Pure Gum Specialty Co., Barberton, O.
Tyer Rubber Co., Andover, Mass.

Life Preservers.

Hodgman Rubber Co., New York.

Nipples.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence, R. I.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Pure Gum Specialty Co., Barberton, O.
Tyer Rubber Co., Andover, Mass.

Sponges (Rubber).

Faultless Rubber Co., Ashland, Ohio.
B. F. Goodrich Co., Akron, O.

Stationers' Sundries.

American Hard Rubber Co., New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hardman Rubber Co., Belleville, N. J.
Hodgman Rubber Co., New York-Boston.
Seamless Rubber Co., New Haven, Ct.
Tyer Rubber Co., Andover, Mass.

Stopples (Rubber).

Cleveland Rubber Co., Cleveland, O.
Daval Rubber Co., Providence, R. I.
Hodgman Rubber Co., New York.
Manhattan Rubber Mfg. Co., New York
New York Belting & Packing Co., N. Y.
Tyer Rubber Co., Andover, Mass.

DRUGGISTS' SUNDRIES.

Throat Bags.

Cleveland Rubber Co., Cleveland, O.
Daval Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Tyer Rubber Co., Andover, Mass.

Tobacco Pouches.

Canadian Rubber Co. of Montreal.
Faultless Rubber Co., Akron, Ohio.
B. F. Goodrich Co., Akron, O.
Pure Gum Specialty Co., Barberton, O.
Tyer Rubber Co., Andover, Mass.

MACKINTOSHED
AND SURFACE
GOODS

Air Goods (Rubber).

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Daval Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
New York Rubber Co., New York.
National India Rubber Co., Providence.
Tyer Rubber Co., Andover, Mass.

Air Mattresses.

Canadian Rubber Co. of Montreal.
Mechanical Fabric Co., Providence, R. I.

Barbers' Bibs.

Daval Rubber Co., Providence, R. I.
Tyer Rubber Co., Andover, Mass.

Bathing Caps.

Daval Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.

Bellows Cloths.

Boston Rubber Co., Boston.
Cleveland Rubber Co., Cleveland, O.
Hodgman Rubber Co., New York.
La Crosse (Wis.) Rubber Mills Co.

Calendering.

La Crosse (Wis.) Rubber Mills Co.
Plymouth Rubber Co., Stoughton, Mass.

Carriage Ducks and Drills.

Cleveland Rubber Co., Cleveland, O.
Empire Rubber Mfg. Co., Trenton, N. J.
Kureka Rubber Mfg. Co. of Trenton.
Gutta Percha & Rubber Mfg. Co., Toronto.

Clothing.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Granby Rubber Co., Granby, Quebec.
Gutta Percha & Rubber Mfg. Co. of Toronto.
Hodgman Rubber Co., New York.
La Crosse (Wis.) Rubber Mills Co.
North British Rubber Co., Ltd., Edinburgh.
Pirelli & Co., Milan, Italy.

Cravenette.

Cravenette Co., Ltd.

Diving Dresses.

Hodgman Rubber Co., New York.

Dress Shields.

Hodgman Rubber Co., New York.
Mattson Rubber Co., New York.

Horse Covers.

Hodgman Rubber Co., New York.

Leggings.

Cleveland Rubber Co., Cleveland, O.
Hodgman Rubber Co., New York.

Mackintoshes.

[See Clothing.]

Proofing.

Canadian Rubber Co. of Montreal.
La Crosse (Wis.) Rubber Mills Co.
Plymouth Rubber Co., Stoughton, Mass.

MACKINTOSHED GOODS.

Rain Coats.

Cravenette Co., Ltd.

Rubber Coated Cloths.

Mechanical Fabric Co., Providence, R. I.

RUBBER
FOOTWEAR

Boots and Shoes.

American Rubber Co., Boston.
Boston Rubber Shoe Co., Boston.
Canadian Rubber Co. of Montreal.
L. Candee & Co., New Haven, Ct.
Granby Rubber Co., Granby, Quebec.
Gutta Percha & Rubber Mfg. Co. of Toronto.
Hood Rubber Co., Boston.
Liverpool Rubber Co., Liverpool, Eng.
Lycorning Rubber Co., Williamsport, Pa.
Meyer Rubber Co., New York.
National India Rubber Co., Boston.
North British Rubber Co., Ltd., Edinburgh.
United States Rubber Co., New York.
Wales-Goodyear Rubber Co., Boston.
Woonsocket Rubber Co., Providence.

Heels and Soles.

Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Continental Caoutchouc & Gutta-percha Co., Hanover.
Plymouth Rubber Co., Stoughton, Mass.
Springfield Tire & Rubber Co., Springfield, Ohio.

Tennis Shoes.

American Rubber Co., Boston.
Boston Rubber Shoe Co., Boston.
Granby Rubber Co., Granby, Quebec.
Liverpool Rubber Co., Liverpool, Eng.
National India Rubber Co., Providence.
United States Rubber Co., New York.

Tennis Soles.

Canadian Rubber Co. of Montreal.
Jos. Stokes Rubber Co., Trenton, N. J.

Wading Pants.

Canadian Rubber Co. of Montreal.
Hodgman Rubber Co., New York.

SPORTING
GOODS

Foot Balls.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Faultless Rubber Co., Akron, Ohio.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.

Golf Balls.

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
Davidson Rubber Co., Boston.
B. F. Goodrich Co., Akron, O.

Submarine Outfits.

Hodgman Rubber Co., New York.

Sporting Goods.

Canadian Rubber Co. of Montreal.
Faultless Rubber Co., Akron, Ohio.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
Tyer Rubber Co., Andover, Mass.

Striking Bags.

Canadian Rubber Co. of Montreal.
Faultless Rubber Co., Akron, Ohio.
B. F. Goodrich Co., Akron, O.
Pure Gum Specialty Co., Barberton, O.

DENTAL AND
STAMP RUBBER

Dental Gum.

American Hard Rubber Co., New York
Cleveland Rubber Co., Cleveland, O.
Tyer Rubber Co., Andover, Mass.

DENTAL AND STAMP RUBBER.

Rubber Dam.

Cleveland Rubber Co., Cleveland, O.
Daval Rubber Co., Providence, R. I.
Hodgman Rubber Co., New York.
Tyer Rubber Co., Andover, Mass.

Stamp Gum.

Mattson Rubber Co., New York.
Mechanical Rubber Co., Chicago, Ill.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.

ELECTRICAL

Electrical Supplies.

American Hard Rubber Co., New York.
Lake Shore Rubber Co., Erie, Pa.
Joseph Stokes Rubber Co., Trenton, N. J.
Massachusetts Chemical Co., Boston.
Tyer Rubber Co., Andover, Mass.

Friction Tape.

Boston Belting Co., Boston.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
B. F. Goodrich Rubber Co., Akron, O.
Massachusetts Chemical Co., Boston.
Mechanical Rubber Co., Chicago.
Home Rubber Co., Trenton, N. J.
Revere Rubber Co., Boston-New York.

Hard Rubber Goods.

American Hard Rubber Co., New York.
Canadian Rubber Co. of Montreal.
Joseph Stokes Rubber Co., Trenton, N. J.

Insulating Compounds.

Canadian Rubber Co. of Montreal.
Gutta-Percha & Rubber Mfg. Co., Toronto.
Massachusetts Chemical Co., Boston.

Insulated Wire and Cables.

National India Rubber Co., Providence.

Splicing Compound.

Home Rubber Co., Trenton, N. J.

MISCELLANEOUS

Architect and Engineer.

Herbert S. Kimball, Boston.

Cement (Rubber).

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
B. F. Goodrich Co., Akron, O.
Manhattan Rubber Mfg. Co., New York.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.

Chemical Analyses.

Durand Woodman, Ph D., New York.
H. L. Terry, Manchester, England.

Chemists.

Stephen P. Sharples, Boston, Mass.
Durand Woodman, Ph D., New York.

Electric Apparatus.

Stanley-G. I. Electric Mfg. Co., Pittsfield, Mass.

Laboratory—Tests, Analyses.

G. E. Heyl-Dia, New York.

Rubber Lands For Sale.

O. H. Harrison, San Francisco.

Rubber Planting.

Hidalgo Plantation and Commercial Co., San Francisco.
Mexican Mutual Rubber Co., Chicago.

Rubber Tree Seeds.

J. P. William & Bros., Heneratgoda, Ceylon.

MACHINERY AND SUPPLIES FOR RUBBER MILLS.

RUBBER
MACHINERY

Acid Tanks.
Birmingham Iron Foundry, Derby, Ct.

Band Cutting Machine.
A. Adamson, Akron, O.
Birmingham Iron Foundry, Derby, Ct.

Belt Folding Machines.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.

Belt Slitters.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.

Belt Stretchers.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.
Hoggson & Pettis Mfg. Co., New Haven.

Blowers.
B. F. Sturtevant Co., Boston.
L. J. Wing Mfg. Co., New York.

Boilers.
William R. Thropp, Trenton, N. J.

Braiders.
New England Butt Co., Providence, R. I.

Buckles.
The Weld Mfg. Co., Boston.

Cabling Machinery.
Alton Machine Co., New York.

Calenders.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.
Textile-Finishing Machinery Co., Providence, R. I.

Castings.
A. Adamson, Akron, O.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.

Chucks (Lathe).
Hoggson & Pettis Mfg. Co., New Haven.

Churns.
American Tool & Machine Co., Boston.

Cloth Dryers.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.

Clutches.
Farrel Foundry & Mach. Co., Ansonia, Ct.

Crackers.
Birmingham Iron Foundry, Derby, Ct.

Devulcanizers.
Birmingham Iron Foundry, Derby, Ct.
Edred W. Clark, Hartford, Ct.
William R. Thropp, Trenton, N. J.

Dies.
Hoggson & Pettis Mfg. Co., New Haven.
Holmes Bros., Chicago, Ill.

Doubling Machines.
American Tool & Machine Co., Boston.

Drying Apparatus.
American Process Co., New York.

Drying Machines.
Alton Machine Co., New York.
Joseph P. Devine, Buffalo, N. Y.
Birmingham Iron Foundry, Derby, Ct.
Textile-Finishing Machinery Co., Providence, R. I.

Dynamos.
B. F. Sturtevant Co., Boston.

Embossing Calenders.
Textile-Finishing Machinery Co., Providence, R. I.

Engines.
B. F. Sturtevant Co., Boston.
William R. Thropp, Trenton, N. J.
L. J. Wing Mfg. Co., New York.

Engraving Roll.
Hoggson & Pettis Mfg. Co., New Haven.

Exhaust Fans and Heads.
B. F. Sturtevant Co., Boston.

Factory Construction.
Herbert S. Kimball, Boston.

Fans (Electric).
B. F. Sturtevant Co., Boston.

Fans (Exhaust and Ventilating).
B. F. Sturtevant Co., Boston.

Forges.
B. F. Sturtevant Co., Boston.

Fuel Economizers.
B. F. Sturtevant Co., Boston.

Gas Exhausters.
B. F. Sturtevant Co., Boston.

Gearing.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.

RUBBER MACHINERY.

Generating Sets.
B. F. Sturtevant Co., Boston.

Grinders.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.
William R. Thropp, Trenton, N. J.

Hangers.
Farrel Foundry & Mach. Co., Ansonia, Ct.

Heating Apparatus.
B. F. Sturtevant Co., Boston.

Hose Covering Machines.
New England Butt Co., Providence, R. I.

Hose Making Machines.
Birmingham Iron Foundry, Derby, Ct.

Hose Wrapping Machines.
A. Adamson, Akron, Ohio.
Birmingham Iron Foundry, Derby, Ct.

Hydraulic Accumulators.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.

Hydraulic Machinery.
Alton Machine Co., New York.

Insulating Machinery.
Alton Machine Co., New York.

Iron Castings.
Alton Machine Co., New York.

Lasts (Rubber Shoe).
Middlesex Last Co., Boston.

Lathe—Hard Rubber.
A. Adamson, Akron, Ohio.

Lathe—Jar Ring.
A. Adamson, Akron, Ohio.
Birmingham Iron Foundry, Derby, Ct.
William R. Thropp, Trenton, N. J.

Machinists' Tools.
Hoggson & Pettis Mfg. Co., New Haven.

Mechanical Draft.
B. F. Sturtevant Co., Boston.

Mixers.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.
William R. Thropp, Trenton, N. J.

Motors (Electric).
B. F. Sturtevant Co., Boston.

Moulds.
A. Adamson, Akron, Ohio.
Birmingham Iron Foundry, Derby, Ct.
Hoggson & Pettis Mfg. Co., New Haven.
Holmes Bros., Chicago, Ill.

Pillow Blocks.
Farrel Foundry & Mach. Co., Ansonia, Ct.

Post Hangers.
Farrel Foundry & Mach. Co., Ansonia, Ct.

Presses (for Rubber Work.)
A. Adamson, Akron, O.
Birmingham Iron Foundry, Derby, Ct.
Boomer & Boschert Press Co., Syracuse, N. Y.
Edred W. Clark, Hartford, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.
William R. Thropp, Trenton, N. J.

Pumps.
Birmingham Iron Foundry, Derby, Ct.
Boomer & Boschert Press Co., Syracuse, N. Y.

Racks for Boot and Shoe Cars.
Hoggson & Pettis Mfg. Co., New Haven.

Reducing Valves.
Mason Regulator Co., Boston.

Rollers.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.

Rollers (Hand).
Hoggson & Pettis Mfg. Co., New Haven.
Holmes Bros., Chicago, Ill.

Rubber Covering Machines.
New England Butt Co., Providence, R. I.

Rubber Machinery.
Alton Machine Co., New York.

Separators.
Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

Separators for Reclaimed Rubber.
American Process Co., New York.

Shafting.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.

Special Rubber Machinery.
Wellman Sole Cutting Machine Co., Medford, Mass.

Spreaders.
American Tool & Machine Co., Boston.
Birmingham Iron Foundry, Derby, Ct.

Spreading Machines.
New England Butt Co., Providence, R. I.

RUBBER MACHINERY.

Steam Traps and Specialties.
Jenkins Bros., New York.
Mason Regulator Co., Boston.
B. F. Sturtevant Co., Boston.

Steel Stamps.
Hoggson & Pettis Mfg. Co., New Haven.

Stitchers (Hand).
Hoggson & Pettis Mfg. Co., New Haven.
Holmes Bros., Chicago, Ill.

Strip Covering Machines.
New England Butt Co., Providence, R. I.

Strip Cutters.
New England Butt Co., Providence, R. I.

Thermometers.
Hohmann & Maurer Mfg. Co., Rochester, N. Y.

Tubing Machines.
A. Adamson, Akron, O.
Edred W. Clark, Hartford, Ct.
Holmes Bros., Chicago, Ill.
John Royle & Sons, Paterson, N. J.

Vacuum Drying Chambers.
Joseph P. Devine, Buffalo, N. Y.

Varnishing Machines.
Birmingham Iron Foundry, Derby, Ct.

Ventilating Fans.
B. F. Sturtevant Co., Boston.

Vulcanizers.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.
William R. Thropp, Trenton, N. J.

Washers.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.
William R. Thropp, Trenton, N. J.
Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

Wire Insulating Machines.
New England Butt Co., Providence, R. I.

Wrapping Machines.
A. Adamson, Akron, O.
Birmingham Iron Foundry, Derby, Ct.

Wire Rope Machinery.
Alton Machine Co., New York.

SECOND-HAND
MACHINERY.

W. C. Coleman Co., Rochelle Park, N. J.
Philip McGrory, Trenton, N. J.

FACTORY
SUPPLIES

Acid (Carbolic).
Barrett Mfg. Co., Philadelphia.

Antimony, Sulphurets of.
GOLDEN.

Actien-Ges. Georg Egestorff's Salzwerke, Linden, Germany.
Atlas Chemical Co., Newtonville, Mass.

GOLDEN AND CRIMSON.
Joseph Cantor, New York.
Wm. H. Scheel, New York.

Stamford (Conn.) Rubber Supply Co.
Typke & King, London, England.

Balata.
George A. Alden & Co., Boston.

Benzol.
Barrett Mfg. Co., Philadelphia.
Samuel Cabot, Boston.

Black Hypo.
Joseph Cantor, New York.
William H. Scheel, New York.

Typke & King, London, England.

Boxes (Wood).
Henry H. Sheip & Co., Philadelphia.

Brass Fittings.
A. Schrader's Son, Inc., New York.

Carbon Bisulphide.
George W. Speight, New York.

Caustic Soda.
Acker Process Co., Niagara Falls, N. Y.

Chemicals.
Acker Process Co., Niagara Falls, N. Y.
Empire Palm Oil Co., Boston.
George W. Speight, New York.

Colors.
Joseph Cantor, New York.
William H. Scheel, New York.
Toch Bros., New York.

Typke & King, London, England.

Crude Rubber.
George A. Alden & Co., Boston.

FACTORY SUPPLIES.

Crude Rubber.—Continued.
A. W. Bruhn, New York.
Hagemeyer & Bruhn, New York.
Hirsch & Kaser, Inc., New York.
F. R. Müller & Co., New York.
Neale & Co., New York.
Rubber Trading Co., New York-Boston.

Drills.
J. H. Lane & Co., New York.
Duck (Cotton).
J. H. Lane & Co., New York.
Gilonite.
William H. Scheel, New York.

Graphite Grease.
Jos. Dixon Crucible Co., Jersey City.

Gutta-Percha.
George A. Alden & Co., Boston.
Rubber Trading Co., New York-Boston.

Hose Bands, Straps & Menders.
Boston Woven Hose & Rubber Co.
William Yerdon, Fort Plain, N. Y.

Hose Pipes, Nozzles & Couplings.
Boston Woven Hose & Rubber Co.
Eureka Fire Hose Co., New York.
Revere Rubber Co., Boston.
A. Schrader's Son, Inc., New York.

Hydro-Carbon Products.
Geo. A. Alden & Co., Boston.
William H. Scheel, New York.

Infusorial Earth.
Stamford (Conn.) Rubber Supply Co.

Lampblack.
Samuel Cabot, Boston.

Lawn-Hose Supporters.
C. J. Bailey & Co., Boston.

Lead—Blue.
Picher Lead Co., Chicago, Ill.

Lead—Sublimed White.
Picher Lead Co., Chicago, Ill.

Naphtha.
Barrett Mfg. Co., Philadelphia.

Paris White and Whiting.
H. F. Taintor Mfg. Co., New York.

Reclaimed Rubber.
Alkali Rubber Co., Akron, Ohio.
American Reclaimed Rubber Co., Rochelle Park, N. J.
Bloomington (N. J.) Soft Rubber Co.
E. H. Clapp Rubber Co., Boston, Mass.
Danversport Rubber Co., Boston.
Manufactured Rubber Co.
New Jersey Rubber Co., Lambertville, N. J.

Pequanoc Rubber Co., Butler, N. J.
Philadelphia Rubber Wks., Philadelphia.
Jos. Stokes Rubber Co., Trenton, N. J.
S. & L. Rubber Co., Chester, Pa.
U. S. Rubber Reclaiming Wks., N. Y.

AGENTS AND DEALERS.
Philip McGrory, Trenton, N. J.
H. P. Moorhouse, Paris, France.
Rubber Trading Co., New York-Boston.

Rubber Waste.
J. H. Brereton & Co., Liverpool, Eng.
Wm. H. Cummings & Sons, New York.
W. C. Coleman Co., Rochelle Park, N. J.
United States Waste Rubber Co., Brockton, Mass.

Scrap Rubber.
Bers & Co., Philadelphia.
J. H. Brereton & Co., Liverpool, Eng.
P. Broomfield & Co., Boston.
W. C. Coleman Co., Rochelle Park, N. J.
Wm. H. Cummings & Sons, New York.
Theodore Hoffeller & Co., Buffalo, N. Y.
A. W. Leslie & Co., Ltd., London, Eng.
Philip McGrory, Trenton, N. J.
Henry P. Rindskopf, Brooklyn, N. Y.
San Giacomo Sons, Newark, N. J.
J. Schnurmann, London.
M. J. Wolpert, Odessa, Russia.

Substitute.
Joseph Cantor, New York
Massachusetts Chemical Co., Boston.
Wm. H. Scheel, New York.
Stamford (Conn.) Rubber Supply Co.
Typke & King, London, England.

Sulphur.
Battelle & Renwick, New York.
T. & S. C. White Co., New York.

Sulphur Chloride.
Acker Process Co., Niagara Falls, N. Y.
William H. Scheel, New York.
George W. Speight, New York.
Stamford (Conn.) Rubber Supply Co.

Tire Fabrics.
J. H. Lane & Co., New York.

Tire Valves.
A. Schrader's Son, Inc., New York.

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E. H. Clapp Rubber Co.

MANUFACTURERS

OF ALL KINDS OF

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ESTABLISHED 1828.

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JAMES BENNETT FORSYTH, Mfg. Agt. and Gen. Mgr.

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Forsyth Patent Improved Deckle Straps

Made of high grade stock throughout and constructed so that they are uniformly flexible in either direction. Any of the four sides of these straps can be run next to the wire—thus giving double wear compared to the ordinary old style straps.

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A rubber packing in sheet or tubular form with an insertion of pliable sheet metal. Forsyth Combination Packing and Gasket Tubing satisfactorily withstand the heat of high pressure steam and possess many advantages over ordinary packings and gasket tubing. A practical trial invariably results in a strong indorsement of their merits.

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As the exclusive manufacturers of deckle straps, pliable sheet metal insertion rubber packing and gasket tubing, under patents issued March 5, 1901, and April 11, 1899, to James Bennett Forsyth, we caution all parties against manufacturing, selling or using any articles that in any way infringe said patents.

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1904.

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Adopted as the Standard Factory Fire Hose by the Associated Factory Mutual Fire Insurance Companies, for Factory and Mill Fire Protection.

COTTON and LINEN HOSE of all grades, both plain and rubber-lined. All sizes.

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FABRIC FIRE HOSE COMPANY,

Corner Duane and Church Streets,

NEW YORK.

Patentees and Sole Manufacturers

Wax and Para Gum Treated Rubber Lined Cotton
FIRE AND MILL HOSE.

KEYSTONE BRAND GUARANTEED UNDERWRITERS' HOSE.

Endorsed as Standard by

ASSOCIATED FACTORY MUTUAL FIRE INSURANCE CO.

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COTTON HOSE,

We Spin, Weave, and Line Our Own Goods.

GARDEN HOSE,

New Lines—New Methods.

BELTING and PACKING.

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Factories: TRENTON, N. J.

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BOSTON WOVEN HOSE & RUBBER CO.

ESTABLISHED 1870

ALEXANDER M. PAUL General Manager



MANUFACTURERS OF

MECHANICAL RUBBER GOODS

CANVAS BELTING and BRASS GOODS

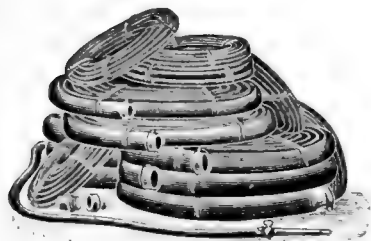
WORKS: CAMBRIDGE MASS. PLYMOUTH, MASS.

Warehouses: NEW YORK PITTSBURG CLEVELAND CHICAGO SAN FRANCISCO
Offices: BOSTON PHILADELPHIA BALTIMORE BUFFALO DETROIT ST. LOUIS MILWAUKEE



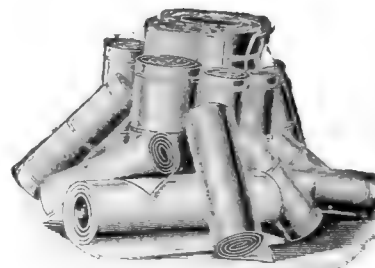
GOLD MEDAL FOR MECHANICAL RUBBER GOODS.
HIGHEST AWARD FOR RUBBER BELTING.
LOUISIANA PURCHASE EXPOSITION, ST. LOUIS, 1904.

"We ask no favors beyond a comparison of qualities and prices."



"Our goods are manufactured for severe service."

"All goods bearing our brands are fully guaranteed." ::::



VOORHEES RUBBER M'F'G. CO.

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Rubber Hose, Belting, Packing, Valves, Gaskets, Mats, Matting, Cotton Rubber Lined Hose, etc.

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**Rubber Surface Clothing
Mackintoshes and Raincoats
Druggists' Sundries
Hospital Sheetings and Blankets
Horse Covers, Ice Aprons
Rubber Elastic Bands**

MANUFACTURED BY

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Factories:
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ESTABLISHED
IN 1838

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 **We Manufacture Our Products by Mechanical Means.** 

THE BLOOMINGDALE SOFT RUBBER WORKS,

Manufacturers of

THE FINEST GRADES OF

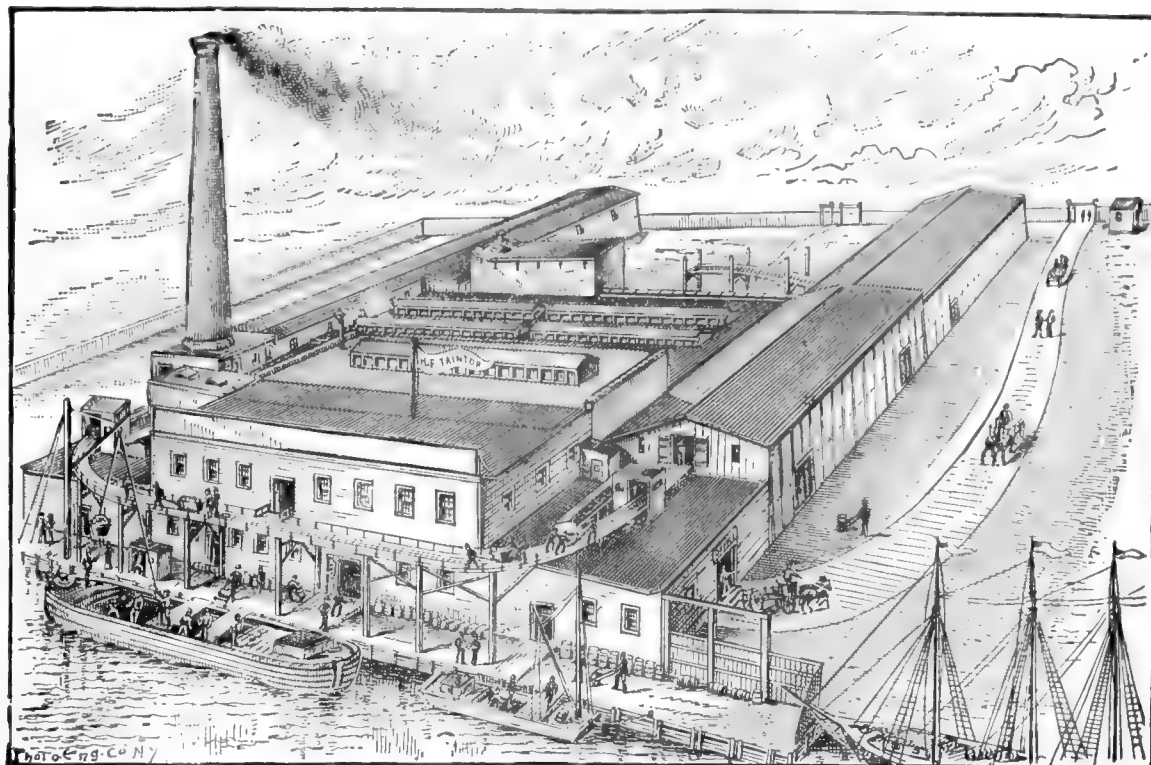
Reclaimed and Devulcanized Rubber

FOR

Manufacturing and Mechanical Purposes.

BLOOMINGDALE, N. J.

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The H. F. Taintor Mfg. Co.

are the largest manufacturers of Whiting and English Cliffstone Paris White in this country.

All grades of Whiting prepared especially for use of Rubber Manufacturers, finely ground and bolted and *very* dry.

The "Westminster" brand of English Cliffstone Paris White is the finest made in the world, and is particularly suited to manufacturers of fine Rubber goods and specialties.

Samples can be had by mail.

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Manufacturers of

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PACKING,
ETC.**

OF SUPERIOR QUALITIES.

**HIGH GRADE
Lawn and Garden Hose
A SPECIALTY.**

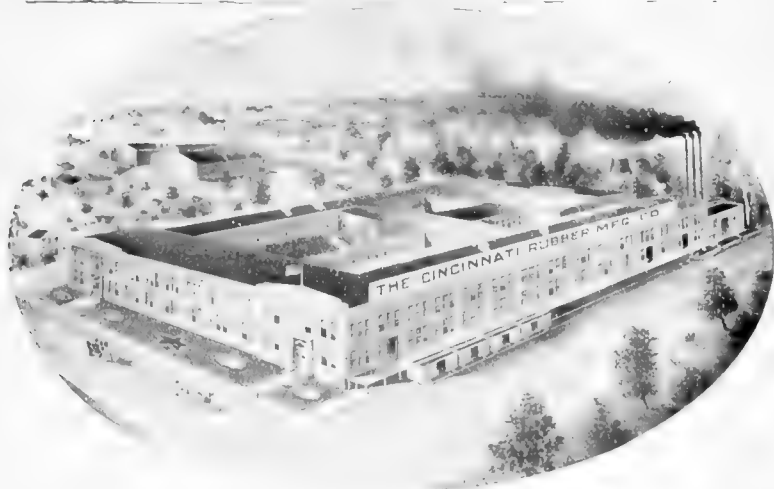
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A SPECIALTY.**

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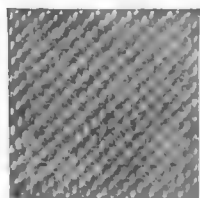
CINCINNATI, OHIO.

A faithful reproduction of our factory building equipped with the latest machinery for the manufacture of

**MECHANICAL AND SPECIAL MOULDED RUBBER
GOODS OF EVERY DESCRIPTION.**

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DODS CROSS EXPANSION PISTON PACKING.



CROSS
SECTION



PAT. MAR. 15. 1898

Dods Packing, made from high grade Rubber and Duck on the bias, placed at a diagonal from every side, has a cross expansion of 100 per cent.; it will hold steam or liquid when all others fail.

Send for Samples to Dept. 6.

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ARE YOU FAR SIGHTED?

TEST YOUR SIGHT WITH THIS AD.

BELTING PACKING HOSE CARRIAGE TIRES

AUTOMOBILE INNER TUBES

If you are far sighted you will look into what appears to some too small to bother with—AUTO INNER TUBES.

Write us for information relative to this business.

TRENTON RUBBER MFG. CO.

O. I. M.

ON ITS MERIT



LOW PRESSURE.

O. I. M.

This packing is constructed of two diagonally cut wedges. LOW PRESSURE is made with a soft absorbent cushion. HIGH PRESSURE is made with a highly elastic hard friction tuck. The wedges are of our own manufacture are made of the best material and are guaranteed. The wedges are so constructed that they will slip on each other and so adapt themselves to any unevenness in a scored or worn rod.

O. I. M.

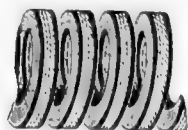
ON ITS MERIT



HIGH PRESSURE.

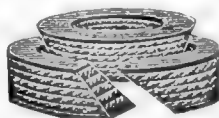
AN ALTOGETHER SUPERIOR PACKING.

Spiral Piston Packing.



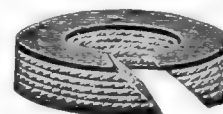
**HOSE
BELTING**

Sectional Ring Packing.



**VALVES
GASKETS**

Elastic Ring Packing.



We manufacture a general line of Mechanical Rubber Goods.

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TRENTON, N. J.**

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 New York, - - - - - 10 Barclay Street.
 Boston, - - - - - 134 Congress Street.
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Distributing Agents, W. D. ALLEN MFG. CO.,
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HIGH GRADE RUBBER GOODS.

ESTABLISHED 1858

"Our name and brand a guarantee of quality."

AIR BRAKE HOSE

STEAM HOSE

FIRE HOSE

WATER HOSE

RUBBER BELTING

STEAM PACKING

MATS AND MATTING

VALVES, Etc.

"RED OAK" SHEET PACKING

"GIBRALTAR" BLACK SHEET PACKING

RUBBER-LINED COTTON FIRE HOSE

MECHANICAL RUBBER GOODS FOR ALL PURPOSES.

Mention The India Rubber World when you write.

STANDARD RUBBER CO., Trenton, New Jersey.

Manufacturers of **MECHANICAL RUBBER GOODS.**

Air Brake Hose, Woven Steel Hose, and Rubber Railroad Specialties.

WE CARRY A FULL LINE OF SOLID CARRIAGE TIRES.

WRITE US FOR NEW CATALOGUE.

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LONG LIFE STEAM HOSE

Golden Rod Water Hose. Mining Suction Hose.

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FOR THE TRADE.

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Made in all sizes, widths and thicknesses, endless and open.

GUSTAVE KUSH

60 BEEKMAN STREET,

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Manufacturer of Mechanical Rubber Goods.

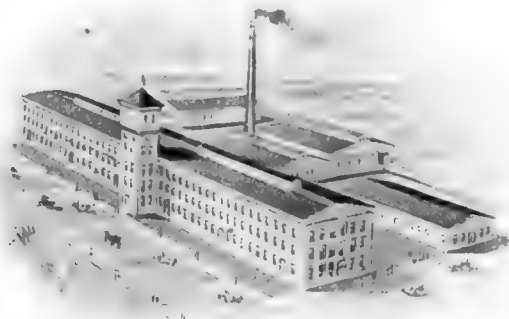


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are all made of high grade steam metal, have interchangeable parts, and full opening. Our new EXTRA HEAVY valves for high steam and hydraulic pressures are the heaviest valves of this class on the market. All valves bearing our trade mark are absolutely guaranteed. Write for Booklets.

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Manufacturers of

Rubber Carriage Drill and Duck, Cotton Rubber Lined Hose, and Mechanical Rubber Goods of Every Description.

Factory strictly modern in design, with machinery of the latest and most approved description throughout using only first class raw material, and producing nothing but reliable grades.

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FACTORY - - - TRENTON, N. J.
On the main line Pennsylvania R. R.

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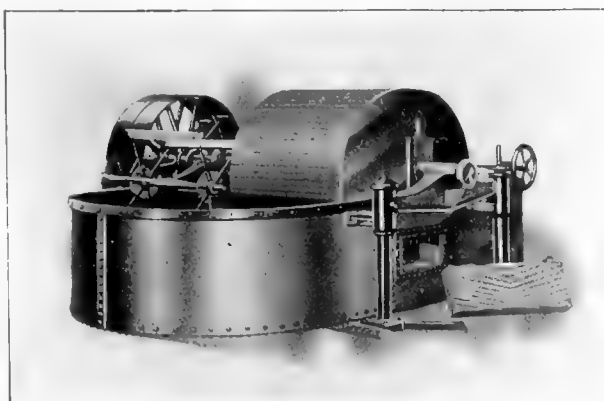
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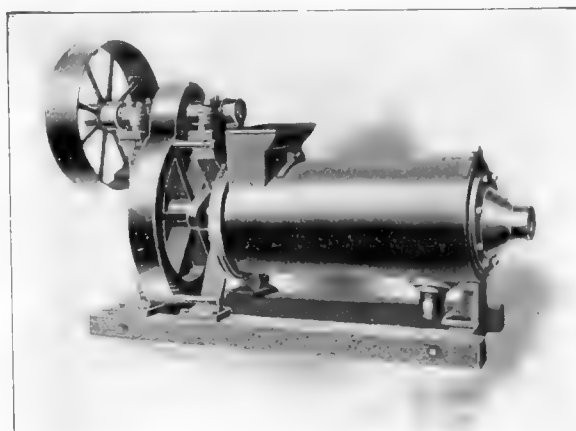
NEW RUBBER MACHINERY

WASHING MACHINE
for Crude Rubber



Removes all Sand, Bark and Dirt. Try it for Centrals, Africans and Coarse Para. Rubber Planters; this will clean your Scrap Rubber.

WATER SEPARATOR
for Reclaimed Rubber



Instead of Evaporating Tanks, use this. Takes 40% of the moisture out at once. Then a short time on the screens delivers the product bone dry.

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On Delaware, Lackawanna & Western Railroad.

TELEPHONE:
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Manufacture Mechanical Rubber Goods,

HOSE, BELTING, PACKING, VALVES,
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WRITE FOR PRICES AND SAMPLES. _____

Office and Works, ERIE, PA.

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for Weaving and other uses

Card Cloths
of Woolen, Cotton and Rubber

Rubber Coated Cloths
Vulcanized or Unvulcanized for various purposes

CORRESPONDENCE SOLICITED

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For General Compounding

"M.R." makes a perfect union with rubber. Prevents blistering, and the harsher action of free Sulphur. Absolutely acid proof. Has been used regularly by Rubber Manufacturers for the past four years.

Manufactured only by the AMERICAN ASPHALTUM & RUBBER CO., Chicago.

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MANUFACTURERS OF

RECLAIMED RUBBER

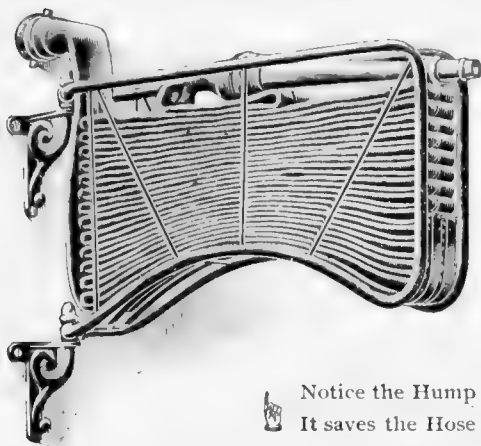
No. 185 Summer Street,

BOSTON, MASS.

Factory: Franklin, Mass.

Telephone: Oxford, 460

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Notice the Hump
It saves the Hose

WIRT'S PATENT Hose Carts, Reels and Racks

Made Exclusively of

Wrought and Malleable Iron.

SOLD AND USED EVERYWHERE.

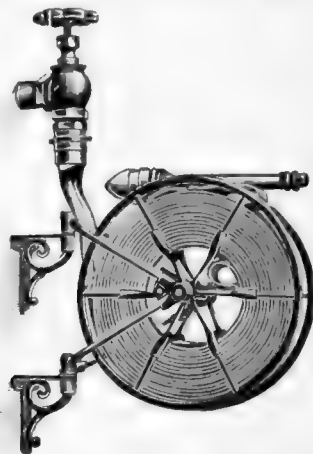
Send for descriptive Catalogue.

WIRT & KNOX MFG. CO.,

17 North 4th Street,

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CONTINENTAL TYRES, CONTINENTAL MECHANICAL RUBBER GOODS.

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NEW YORK OFFICE: 43 WARREN STREET.

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Bicycle, Carriage, Automobile.

NONE BETTER.

KOKOMO RUBBER CO.,

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(LIMITED)

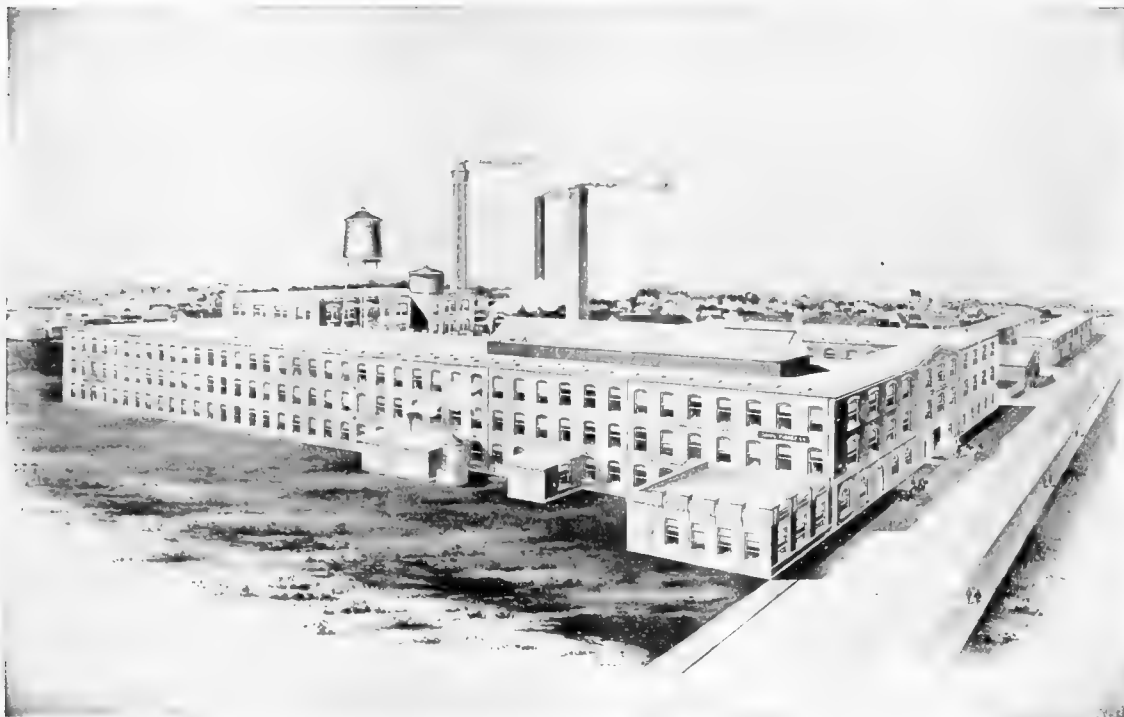
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Correspondence solicited and fully and promptly
dealt with touching any process or invention rela-
tive to the development of the rubber trade.

Mention The India Rubber World when you write.

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MANUFACTURERS OF

**FINE
RUBBER
GOODS**

IN

SOFT and HARD RUBBER



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PLANT OF THE DAVOL RUBBER COMPANY

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THE HARDMAN RUBBER CO.
Hard Rubber Goods
of
Every Description.

We Solicit your Inquiries.

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HIGH QUALITY GUARANTEED, REASONABLE PRICE.

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of all kinds. Valves, Springs, Pure Sheet, Mats, Matting, etc.
Expert Mould Makers.

THE "RIVAL" HEEL. SOLES AND SHEET SOLING.

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Size 3 x 5 in.

1906 PRICE LIST BAILEY'S RUBBER BRUSHES

	PER DOZ.		PER DOZ.		PER DOZ.
Bailey's Rubber Bath Brush,	\$12.00	Bailey's Rub. Tooth Brush, No. 2	\$2.50	Bailey's Rub. Glove Cleaner,	\$.75
" Shampoo "	1.00	" Manicure Brush	2.00	" " Finger Cots,	5.00 gro.
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" " Toilet " "	2.00	" " Trumpet,	1.20	" " Skin Food,	4.00 doz.
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Bailey's "Won't Slip" Crutch Tip, (all sizes) \$1.00 per doz. All Goods sent prepaid by us.

C. J. BAILEY & CO.

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AMERICAN HARD RUBBER CO.,

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DRUGGISTS' & STATIONERS' SUNDRIES.

EVERY DESCRIPTION OF HARD RUBBER GOODS.

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HARD RUBBER GOODS.

OUR { SAMPLES ARE CONVINCING.
PRICES ARE CONSISTENT.

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ESTABLISHED 1875

Moulded and Special Rubber Goods
Stamp Gum and Sponge Rubber
Rubber Goods for Hat Manufacturers
Unvulcanized Compounds for the Trade
Dress Shield Materials, Etc.

Correspondence solicited

THE MITZEL RUBBER CO.

AKRON, O., U. S. A.

Factory: Carrollton, O.

High Grade
SEAMLESS, SEAMED AND
MOULDED GOODS

Goods for CUSTOMERS EXCLUSIVELY a Specialty

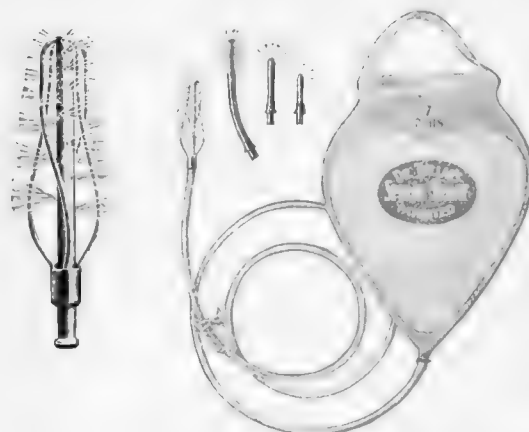
ALL GOODS GUARANTEED

Write for Samples and Prices

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Dr. Tullar's Spiralspray

PHYSICIANS' AND HOSPITAL SYRINGE



The Tullar 7-pint Hospital Fountain Bag with large opening at top can be quickly filled from a pitcher, also turned inside out for thorough cleansing. The lower part being pointed, with large outlet, causes a very rapid discharge, also prevents any sediment from remaining in the bag.

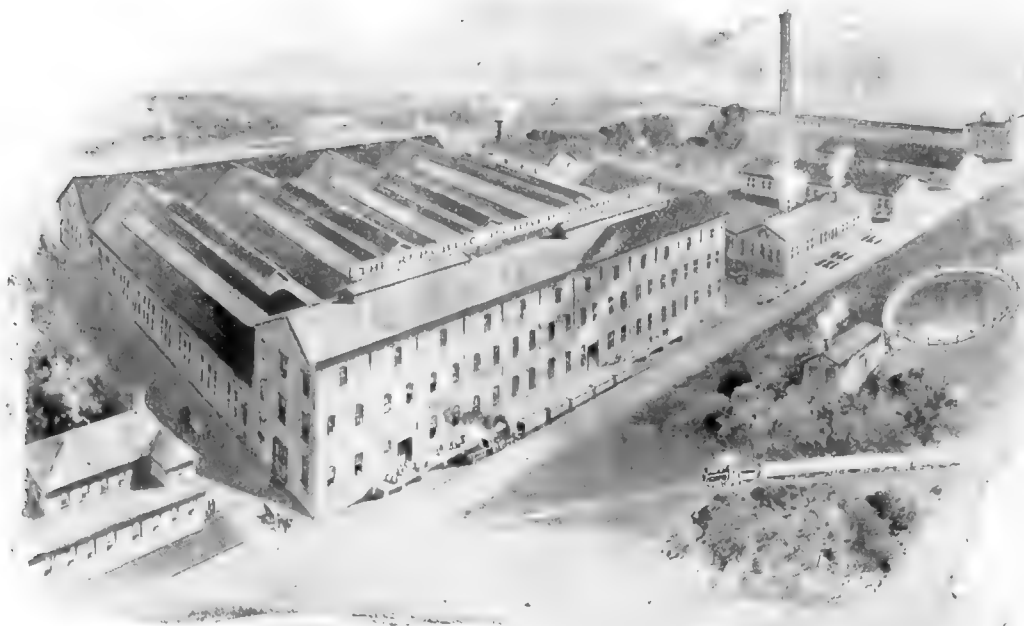
When using the new Self Holding Spiralspray Irrigator, three quarts of water may be discharged in one minute, giving a perfect VAGINAL NEEDLE-BATH. It is fitted with six-foot heavy tubing, also one H. R. curved vaginal spray and three outlet H. R. adult and enema pipes.

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THE MOST MODERN MECHANICAL RUBBER GOODS FACTORY IN EXISTENCE.

A. SCHRADER'S SON, Inc.,

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Manufacturers of

SCHRADER UNIVERSAL VALVES

for Pneumatic Tires:

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Schrader Pillow Valves for Pillows, Life Preservers
and similar articles:

Hose Couplings, Contracted Ferrules for Garden Hose:
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Brass Fittings for Rubber Goods of Every Description:
Diving Apparatus.

**FURNISHERS OF DIVING APPARATUS
TO UNITED STATES NAVY.**

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MANUFACTURERS

**DRUGGISTS' RUBBER SUNDRIES
AIR GOODS.**

CORRESPONDENCE SOLICITED.

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MANUFACTURERS OF

SULPHURET OF ANTIMONY FOR THE RUBBER TRADE.

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23 JUDGE STREET, BROOKLYN, N. Y.**

Manufacturers of

**Pure Gum Ice Bags and Druggists' Sundries
The Bachrach Ice Bag Standard for 30 Years.**

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The NEW LYCOMING CARD

A FINE IMITATION OF BURNT LEATHER

We are sure you will say that here's as pretty a card as you have seen in some time. Nothing gaudy—no reds, or greens, or yellows,—but it will attract attention nevertheless, because it is so thoroughly artistic. It looks exactly like the burnt leather work now so popular.

If you sell Lycoming Rubbers, ask your jobber for a couple of the "Burnt Leather" Cards.

And if you don't sell Lycomings, you haven't yet reached your limit in rubber business and rubber profits.

Comparisons are not odious to us. The more you compare Lycomings with other rubbers the more Lycomings we will sell and the more rubber business you will do.

LYCOMING RUBBER CO.

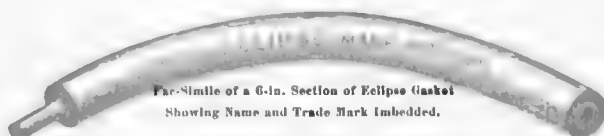
Mention The India Rubber World when you write.

The Eclipse Sectional Rainbow Gasket

$\frac{3}{8}$ in. }
 $\frac{1}{2}$ in. } For Hand Holes.
 $\frac{5}{8}$ in. }



$\frac{3}{4}$ in. }
 $\frac{7}{8}$ in. } For Extra Large Joints.
1 in. }



The Eclipse Gasket is red in color, and composed of the celebrated Rainbow Packing Compound. It will not harden under any degree of heat, or blow out under the highest pressure, and can be taken out and repeatedly replaced. Joints can be made in from three to five minutes.

The Peerless Spiral Piston and Valve Rod Packing.

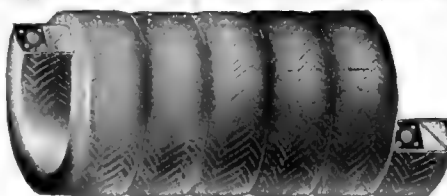
++++++
It will hold 400 pounds of steam.
Once Tried Always Used.



++++++
Will run twelve months in high speed engines.

Success Semi-Metallic, Diagonal Expansion Spiral Packing, Rainbow Core.

For Steam,
Low or High Pressure.



For Hot or Cold Water
and Ammonia Machines.

Patented October 31, 1899.

HOSE, BELTING, PACKING, VALVES and RUBBER TILING.

Largest manufacturers in the world of fine mechanical Rubber Goods.
Send for Catalogue.

MANUFACTURED PATENTED AND COPYRIGHTED EXCLUSIVELY BY

The Peerless Rubber Manufacturing Co.

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1221-1223 Union Ave., Kansas City, Mo. 38 South Meridan St., Indianapolis, Ind.

Mention *The India Rubber World* when you write.

GOODRICH RUBBER BELTING.



"GOODRICH"

The best harness for any engine—means less power and bigger loads.

Tell us about your belting requirements and we will gladly furnish full information regarding what is adaptable to your particular needs.

THE B. F. GOODRICH COMPANY,
AKRON, OHIO.

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BOSTON, - - - 161 Columbus Ave.	DENVER, - - - 1444 Curtis Street
BUFFALO, - - - 731 Main Street.	OAKLAND, - - - 4th & Washington St.
LONDON, - - - - - 7 Snow Hill.	

Mention The India Rubber World when you write.

NEW YORK BELTING *and* PACKING CO., Ltd.

Manufacturers of the highest grades of

ALL KINDS OF HOSE

INCLUDING

Air Brake, Air Drill, Brewers', Car Heating, Dredging Sleeves
Engine and Tender, Fire, Garden, Gas, Linen, Mill, Pneumatic Tool
Signal, Steam, Suction and Water Hose

Also a complete line of fine Mechanical Rubber Goods

Nos. 91-93 Chambers Street, New York

Mention The India Rubber World when you write

ECCE SIGNUM.



THOROUGHLY RELIABLE.

The policy of furnishing only the finest goods that can be produced with perfect materials, latest and best machinery, and highly skilled workmen of long experience, has been, is now, and will continue to be, the policy of

The Mechanical Rubber Company,

CHICAGO, ILL.

Branch Store, No. 1810 Blake Street, Denver, Colo., where we carry a full line of goods.

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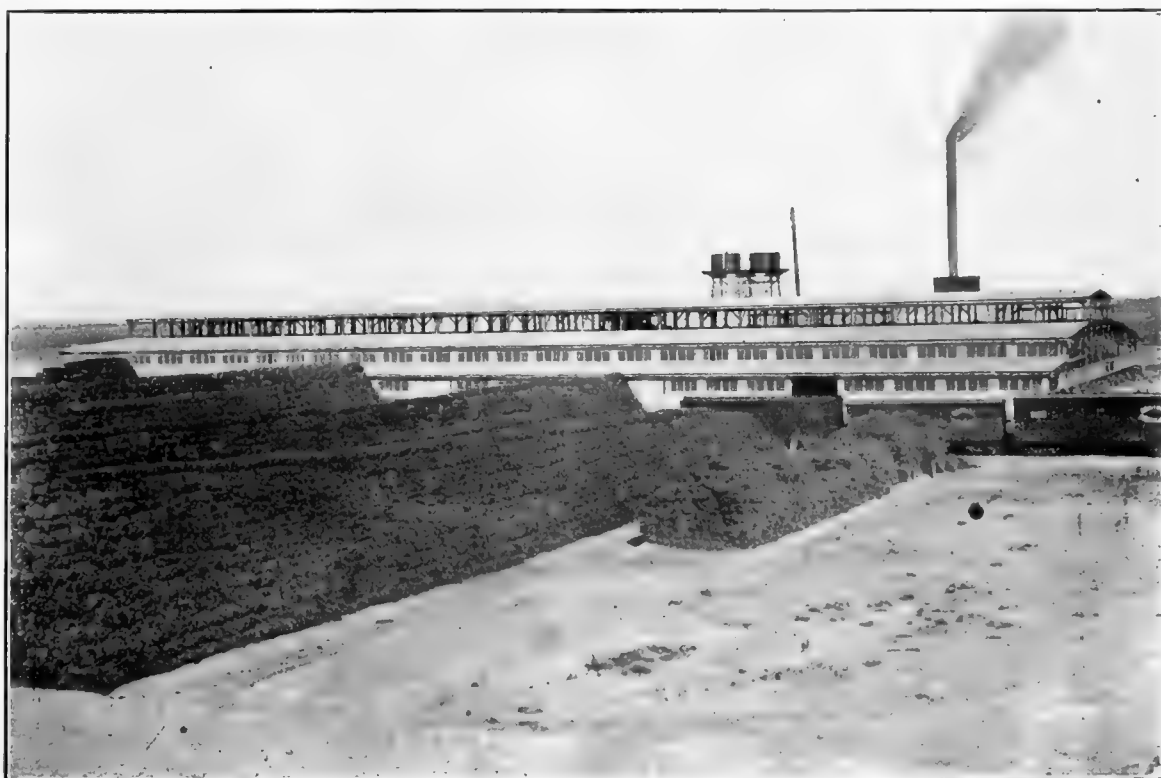
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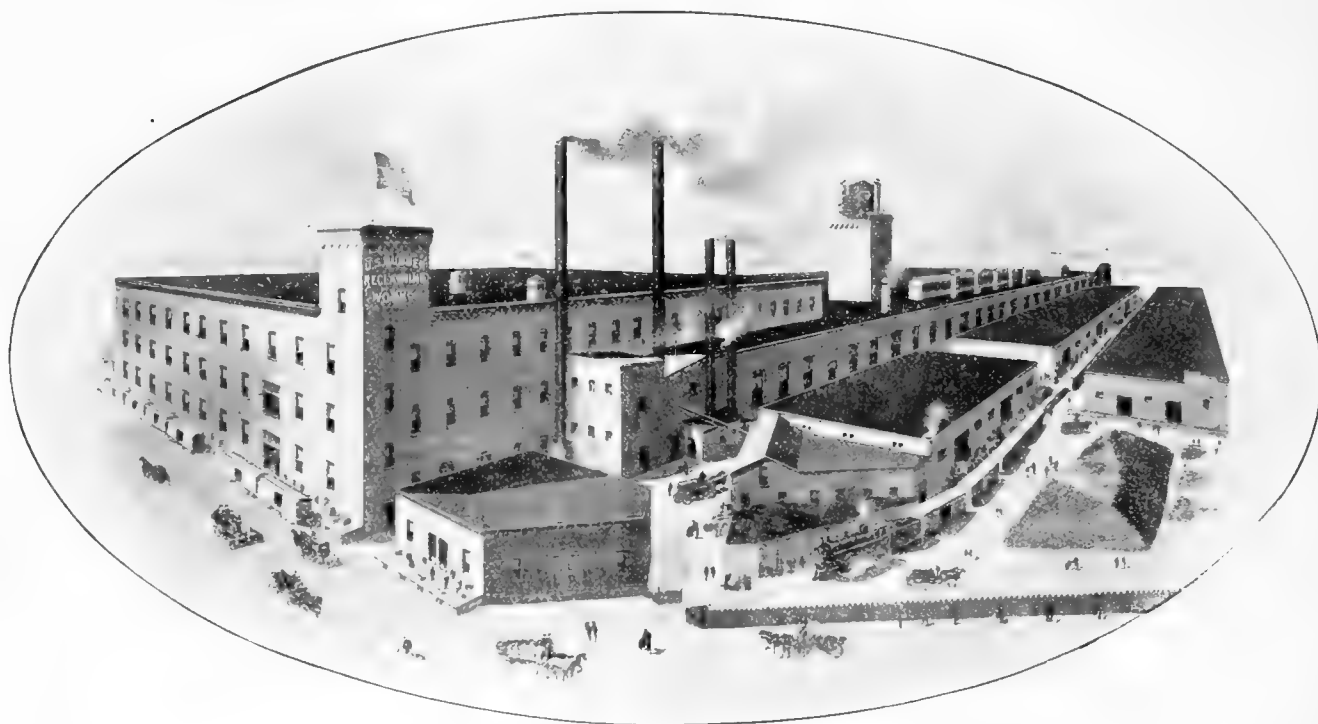
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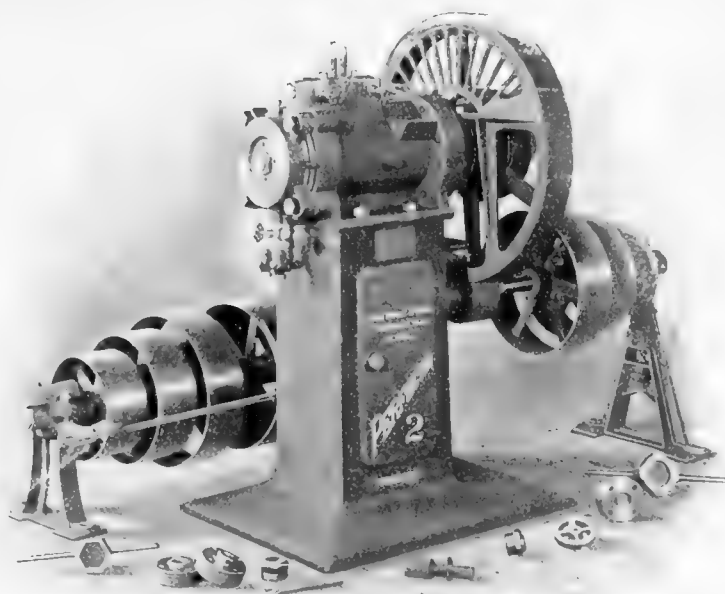
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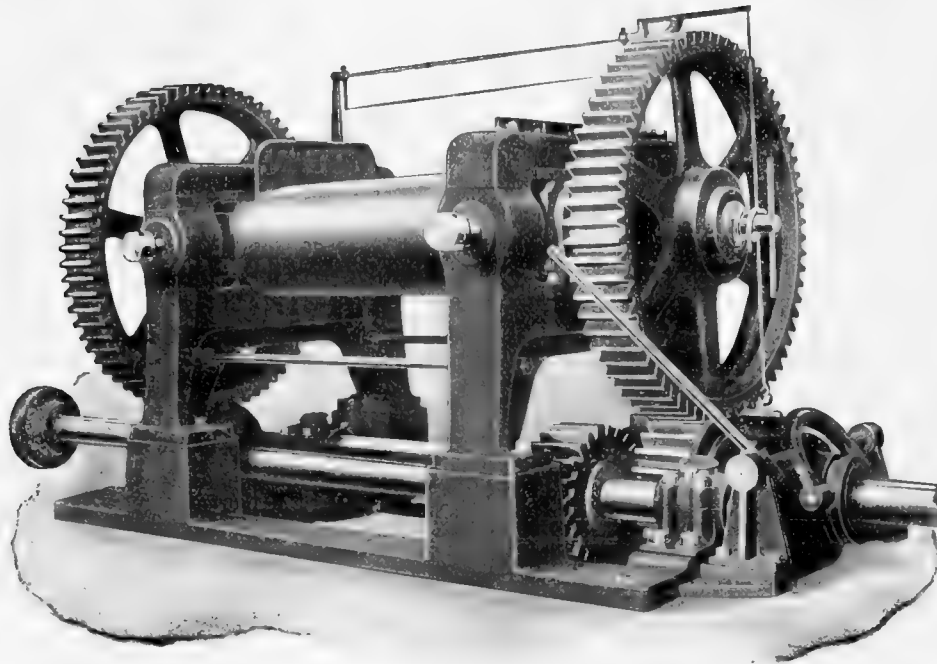
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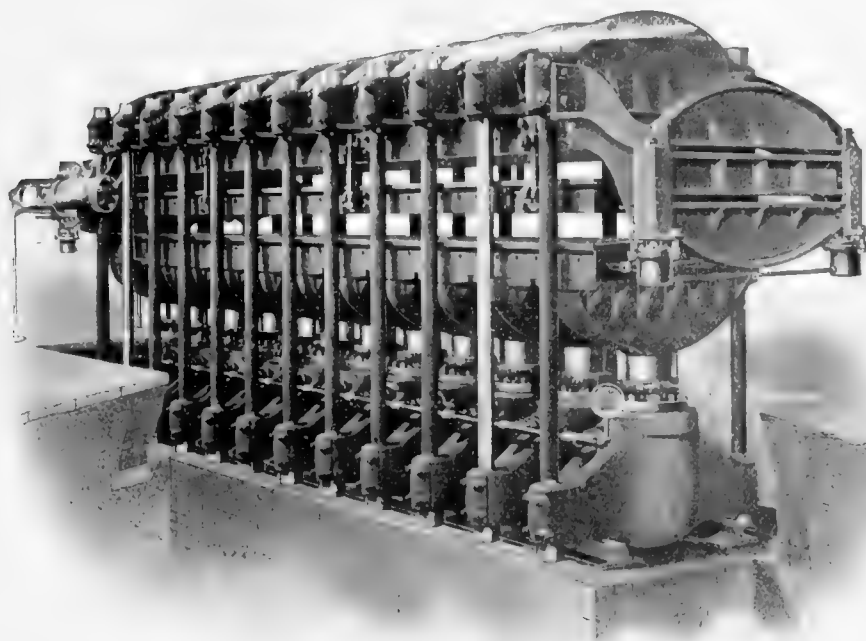
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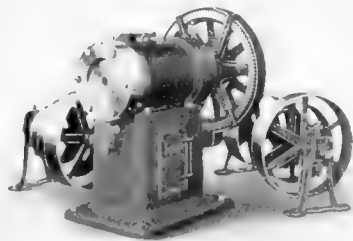
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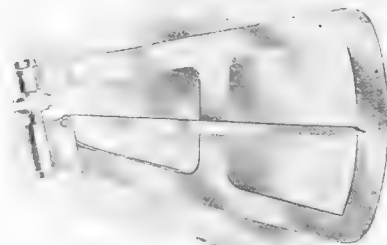
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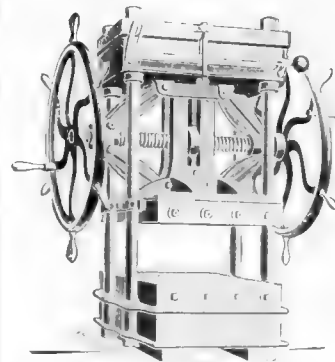
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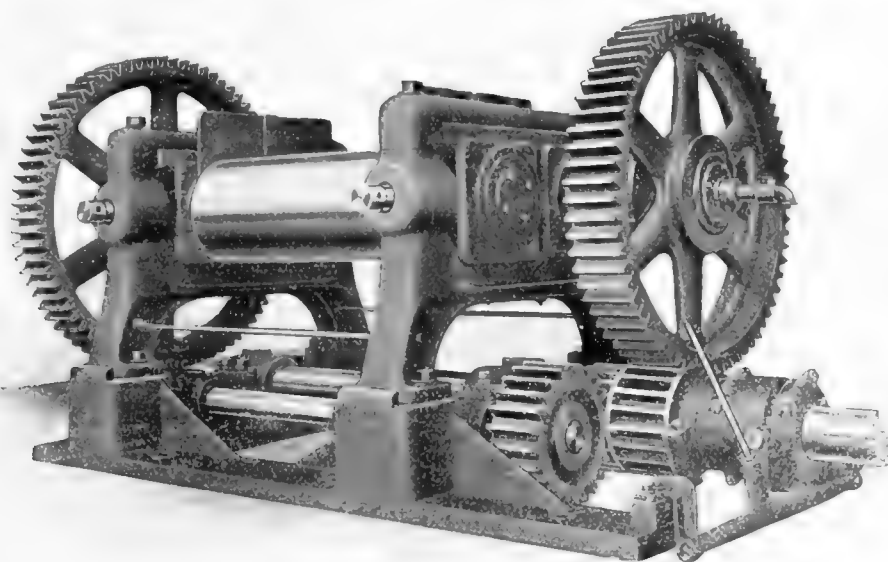
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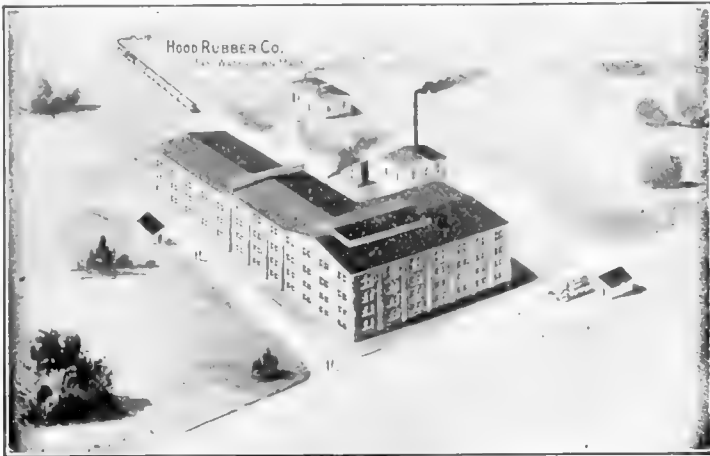
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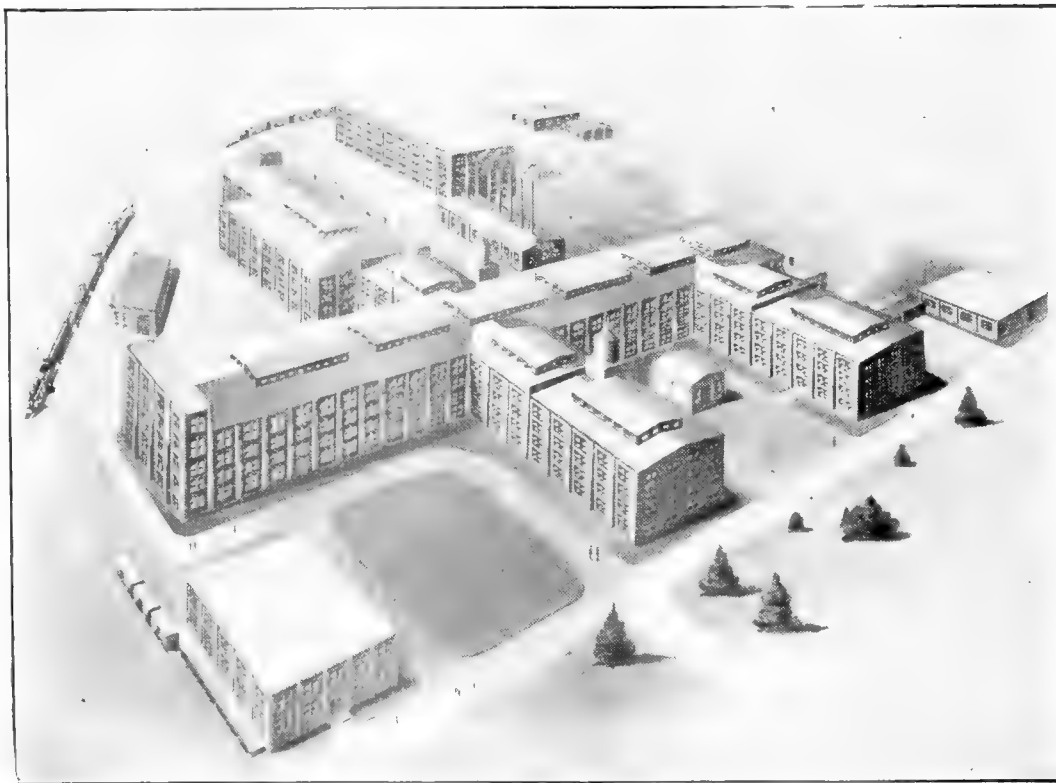
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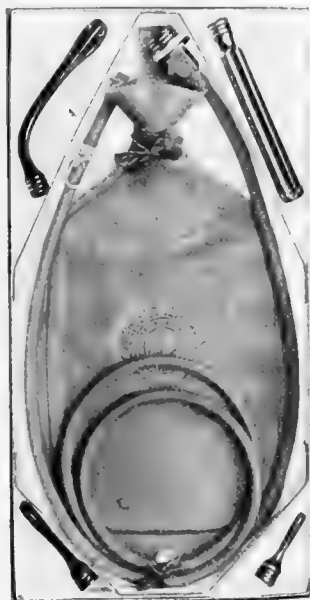
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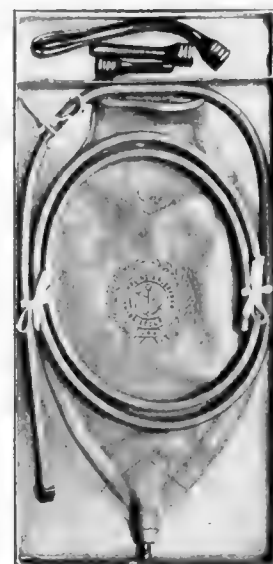
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Mention The India Rubber World when you write.

Dixon's Graphite Gear Grease

Prevents NOISE
Prevents WEAR
SAVES MONEY
SAMPLES
FREE

Joseph Dixon Crucible Co., Jersey City, N. J.

Hydraulic Steam Presses



All sizes and
styles.

Molds of every
description,
nothing too
small, nothing
too large or
complicated.
Castings for iron
work of every
description.
Let us figure
with you.

A. Adamson
Akron, O.

Mention The India Rubber World when you write.

WILLIAM R. THROPP

Manufacturer of

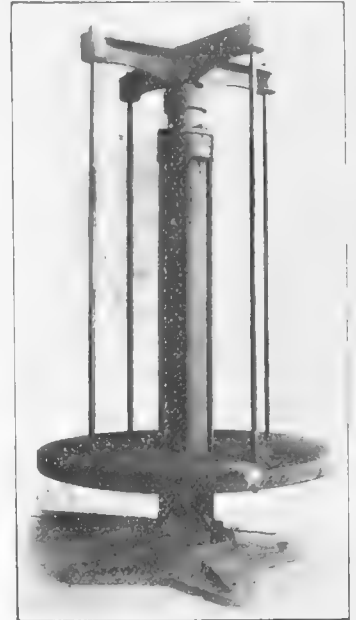
Rubber Washers, Grinders, Warmers,
Sheeters, Refiners and Calenders
AUTOMATIC JAR RING CUTTING LATHES
Hydraulic, Steam and Knock Screw Presses
IMPROVED DUCK SLITTERS
Vulcanizers of all diameters and lengths
Automobile & Vehicle Moulds a Specialty
MOULDS AND SPECIAL MACHINERY
TRENTON, N. J., U. S. A.

Mention The India Rubber World when you write.

Manufacturers of Washers, Crackers,
Grinders, Vulcanizers, Hydraulic Presses
and Knock Screw Presses, Jar Ring
Lathes, Automobile and Vehicle Tire
Moulds and
Special Moulds
of all Kinds.

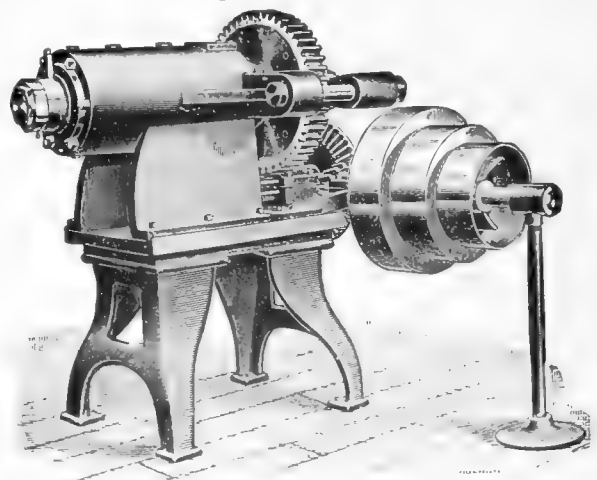
Write for
Photos and Prices
of Machines.

**JOHN E.
THROPP'S
SONS CO.,**
TRENTON, N. J.,
U. S. A.



CLARK'S Reliable Tubing Machine

FOR THE MANUFACTURE OF RUBBER TUBING AND CORD,
And also the Covering of Electrical and Telephone Cables.



MANUFACTURED IN 4 SIZES BY
EDRED W. CLARK, MACHINIST,
Rubber Moulds and Rubber Machinery, Screw and Hydraulic Presses a Specialty
Nos. 12-14 WELLS STREET HARTFORD, CONN.

Mention the India Rubber World when you write.

RUBBER CUTTING DIES

Made by T. J. BEAUDRY

ARE THE BEST AND MOST ACCURATE MADE IN THE WORLD.

SEND FOR PRICES BEFORE PLACING YOUR ORDERS ELSEWHERE.

BOSTON OFFICE: 88 SOUTH STREET.

MARLBORO, MASS.

THE BIGGS BOILER WORKS CO.,
AKRON, OHIO, U. S. A.

Manufacturers of Vulcanizers and Devulcanizers.

Send in your Specifications for special Heaters.

Mention The India Rubber World when you write.

We make CUTTING DIES
For the RUBBER TRADE

the kind

YOU SHOULD USE

INDEPENDENT DIE CO., (Inc.)

Brockton, Mass.

St. Louis, Mo.

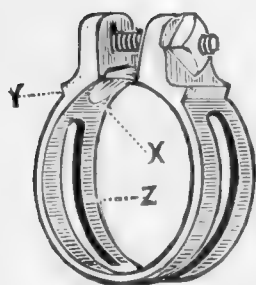
Mention The India Rubber World when you write.

P. C. SMITH,
ENGRAVER FOR THE RUBBER TRADE.

Lettering, Embossing, Die Sinking, Calender Rolls,
and Steel Stamps.

WRITE ME FOR QUOTATIONS AND DESIGNS.

42 CHAUNCY STREET, BOSTON, MASS.



Yerdon's Improved
Double Hose Band....

SIMPLE, STRONG, SURE.

Send for Sample and Prices.

WILLIAM YERDON, - Fort Plain, N. Y.

Mention The India Rubber World when you write.

DIES AND MOULDS of every description
for all kinds of

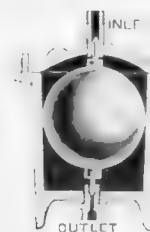
HARD RUBBER WORK.

Lowest prices consistent with good work.

Write for estimate

BARBOUR BROTHERS,
TRENTON, NEW JERSEY

THE EUREKA STEAM TRAP.



In construction the most simple; in
work, just as good as its construction is
simple.

Used by the Navy, Steel Mills, Paper
Mills and Rubber Mills.

Indispensable for Presses and Vulcan-
izers.

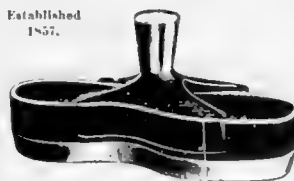
OSGOOD SAYEN,

518 Arcade Bldg.,

Philadelphia, Pa.

Mention The India Rubber World when you write.

Established
1857.



JOHN J. ADAMS.

Successor to A. M. HOWE

CUTTING DIES
of every description

FOR RUBBER

81-85 Mechanic St., Worcester, Mass.

Furnish Us Your Address

if you are interested in the EUROPEAN
India-rubber, Gutta-percha, Asbestos, and
Celluloid industry, so as to enable us to send
you free of charge a sample copy of the
"Gummi-Zeitung", the leading organ of the
Continental manufacturing interest; Address:

GUMMI-ZEITUNG,

DRESDEN-A,

SAXONY, GERMANY.

Mention The India Rubber World when you write.

Hard dried worthless rubber stocks can be made useful by the judicious use of Rubber Flux. It prolongs the oxidation resistance of any rubber compound to a great degree. As much as 15% of it can be used in moulded goods. It is a "substitute" that does not deteriorate rubber compounds.

MASSACHUSETTS CHEMICAL CO.

WALPOLE,
Massachusetts, U. S. A.

Mention The India Rubber World when you write.

Original Manufacturers of Rubber Cements.

The Hadley Cement Company

"Three Generation" rubber cements.

For Bicycle Trade in general,
for Channels, Counters
and Shoe Manufacturers.

FACTORY:

581 Washington Street, Lynn, Mass.

Mention The India Rubber World when you write

DRYERS AND WATER SEPARATORS

—FOR—

RECLAIMED RUBBER

AUTOMATIC AND ECONOMICAL
PRODUCES HIGHER GRADE MATERIAL
AT LOWER COST AND MORE EFFICIENT.

Installed in the
Largest Reclaiming Plants in the World.

AMERICAN PROCESS CO.,

62-64 WILLIAM STREET,
NEW YORK CITY.

Mention The India Rubber World when you write.



WOODEN SHELLS of superior quality for calender work.

For WINDING RUBBER SHEETING, FABRICS, RUBBER BELTING, Etc.

Write for price list.

ADOLPH MARTIN, 272 Bloomfield Ave., Passaic, N. J.

THE TRENTON RUBBER RECLAIMING WORKS.

Factory	N. LONDON, PROP.	Office
TRENTON, N. J.	Cable Address Enlondon, Newyork	31 PECK SLIP, NEW YORK, N. Y.
	Liebers Code Used.	

Reclaimed Rubber and assorted
Scrap Rubber of all Kinds and Grades.

European Representatives: S & M. Oppenheimer, Frankfort, o. M., Germany.

THE S. & L. RUBBER COMPANY

Manufacturers of

RECLAIMED RUBBER

FLOWER STREET and DELAWARE AVENUE,
CHESTER, PA.

Mention The India Rubber World when you write

W. J. CORBETT, President and Treasurer.

J. C. WALTON, Secretary.

THE DANVERSPORT RUBBER COMPANY, BOSTON, MASS., U. S. A. RECLAIMED RUBBER.

STRAIGHT GOODS.

NO ADULTERANTS.

Washing, Reclaiming and Grinding Solicited.

Mill at Danversport, Mass.

Office: 239 & 241 A Street, Boston.

TELEPHONE, 241 MAIN.

WESTMORELAND RUBBER MFG. CO., GRAPEVILLE, PA.



Manufacturers of
High Grade Reclaimed Rubber.

THE MANUFACTURED RUBBER CO.

RECLAIMED RUBBER

OUR BRANDS:

"Lafayette" "William Penn"
"Franklin"

Office: 409 Pennsylvania Building,
PHILADELPHIA, PA.

Works: METUCHEN, N. J.

Mention The India Rubber World when you write.

HIGH GRADE RECLAIMED RUBBER

Our brand "Viking" when cured with 6 per cent. of Sulphur will stretch from 2 inches to 9½ inches, and when tested according to the "Master Car Builder's" specifications 2 inches will stretch to 8 inches with a permanent elongation of ¼ inch.

THE EASTERN RECLAIMED RUBBER COMPANY,
World Building; NEW YORK.

Mention The India Rubber World when you write.

THE STOCKTON RUBBER COMPANY,

BELL TELEPHONE.
POSTAL TELEGRAPH.

STOCKTON, NEW JERSEY, U. S. A

MANUFACTURERS OF ALL KINDS OF **RECLAIMED RUBBER.**

D. J. PRICE, Superintendent and General Manager

Mention The India Rubber World when you write.

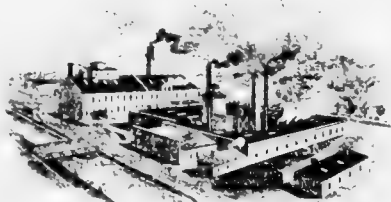
ALLAN W. PAIGE, President.

W. F. ASKAM, Vice President and General Manager

CHARLES N. DOWNS, Sec'y and Treas.

THE DERBY RUBBER CO.

MANUFACTURERS OF

RECLAIMED RUBBER

FACTORY No. 1

Main Office, DERBY, CONN.
Factories, SHELTON, CONN.

Long Distance Telephone, No. 441.



FACTORY No. 2.

NEW JERSEY RUBBER COMPANY,

MANUFACTURERS OF ALL KINDS OF

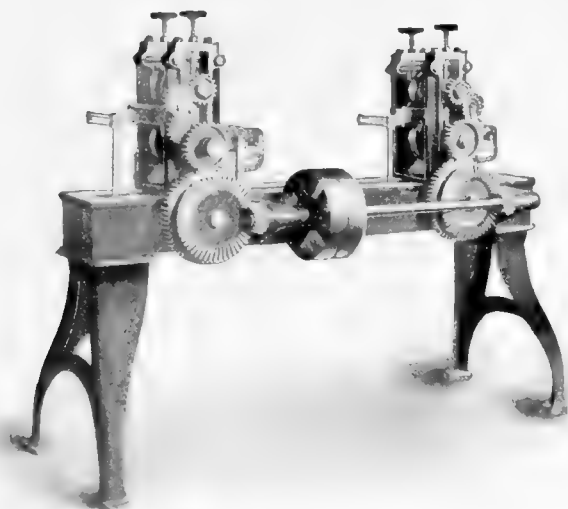
RECLAIMED * RUBBER,

Auxiliary Plant for Trimmings, daily Capacity of 20,000 Pounds. Total daily Capacity 45,000 Pounds.

Office and Factories, **LAMBERTVILLE, NEW JERSEY.***Mention The India Rubber World when you write.***NEW ENGLAND BUTT COMPANY,**

PROVIDENCE, RHODE ISLAND.

MANUFACTURERS OF MACHINERY.

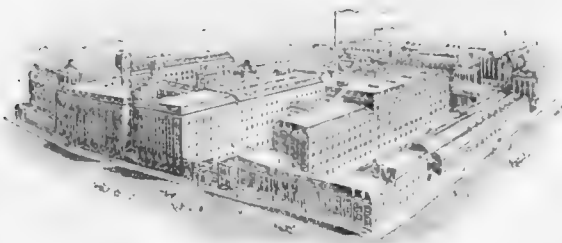


TWO HEAD RUBBER COVERING MACHINE.

Rubber Strip Covering Machines
For Covering Electrical Wires.Strip Cutters and Rubber
Spreading Machines.

Braiders for Covering Rubber Hose.

Complete Line of Machinery for Insu-
lating Electrical Wires and Cables.**FINE CASTINGS A SPECIALTY.***Mention The India Rubber World when you write.*



NORTH

Castle Mills.
EDINBURGH,
SCOTLAND.

The
Pioneer
Manufacturers
of Rubber
Footwear in
Great Britain.

BRITISH

RUBBER

Co., Ltd.

The Inventors and original patentees of the first detachable pneumatic tyre for Motors, Cycles, etc.

THE "CLINCHER" (Bartlett's Patent)

Manufacturers of every description of Rubber Goods for Mechanical, Engineering and Scientific purposes.
Depots:



DERMATINE



In the form of Belting, Hose Valves, Steam Joints and Hydraulic Rings is specially stipulated for by the British and Continental Governments; Chief Corporations and Municipalities throughout Europe; also the Chief Engineers and Chemical Manufacturers throughout the world.

Stands rough wear and usage, heat, cold, damp, oils and acids, better than leather, rubber or gutta-percha.

THE DERMATINE COMPANY, Ltd.

95, Neate Street, LONDON, S. E.

Mention The India Rubber World when you write

LUBRICATING FLAKE GRAPHITE

THE BEST FOR

**RUBBER PACKING
MECHANICAL RUBBER GOODS.**

Samples and prices on application.

UNITED STATES GRAPHITE CO.,

Office, 1208 Arch Street, PHILADELPHIA, PA.

Mention the India Rubber World when you write

FLANGES

The A. Dewes Co.

Manufacturers of

**Cold Rolled
Side Flanges
and
Detachable Rings**
for all shapes of
**Solid and Pneumatic
Tires.**

Careful attention given to experimental work, for which we have special facilities.

NEW YORK OFFICE:

475 BROADWAY, NEW YORK.

Rubber Growers

THE American Can Company is the largest producer in the United States of tin pails, tanks, boxes, dishes and other utensils, adapted to every business where a tin vessel is used.

We are therefore in a position to supply all your

**Rubber Cups Evaporating Dishes
Collecting Vessels Curing Vessels**

or any other tin specialty peculiar to the rubber business. When you buy—buy right—buy "Ameri-can" tinware.

RUBBER MILLS

We also make glue cans, cement cans, tanks, repair kit boxes to suit exacting trade requirements.

Write to us explaining your needs.

AMERICAN CAN COMPANY

Boston, Baltimore, Chicago, San Francisco

447 West 14th Street, New York

Mention The India Rubber World when you write.

BOSTON.

CHICAGO.

PHILADELPHIA.

J. H. LANE & CO.

110 WORTH ST., NEW YORK.

HOSE BELT SAIL WIDE DUCKS **PAPER FELTS OUNCE GOODS ARMY DUCK OSNABURGS** **AUTOMOBILE AND BICYCLE** **TIRE FABRICS**

SHEETINGS AND DRILLS. SEA ISLAND, EGYPTIAN, AND PEELER YARNS, AND FABRICS IN REGULAR AND SPECIAL CONSTRUCTION.

Mention The India Rubber World when you write.

Vacuum Drying Apparatus

FOR

Sheet and Reclaimed Rubber**EMIL PASSBURG SYSTEM**

The Passburg (Patent) "VACUUM DRYING APPARATUS" is no experiment.

They are installed in all of the principal rubber manufactories of Europe.

200 chambers in daily operation drying rubber and rubber compounds.

Particulars upon application.

J. P. DEVINE CO.,

314 Mooney-Brisbane Bldg.

BUFFALO, N. Y.

SOLE MANUFACTURING RIGHTS FOR AMERICA

Handwork is costly
and inaccurate.

Anything that the hands can do
can be done by Machinery.

No Problem is too Difficult for us.

Do you want a Machine for any
Purpose in Rubber Work?

Write to us and we will Produce it

WELLMAN SOLE CUTTING MACHINE CO.,
MEDFORD, MASSACHUSETTS.

A. M. STICKNEY, President.

EDWARD BROOKS, Treasurer.

Mention The India Rubber World when you write.

Vacuum Drying Plants

FOR

Rubber and Compounding Materials

MENDE SYSTEM

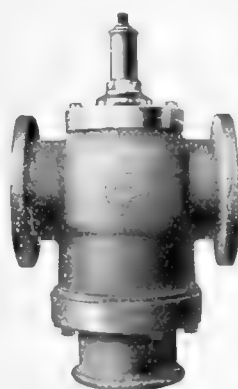
Testing Plant operated at our Works.

NORMAN HUBBARD'S SONS

MACHINE WORKS.

265-267 Water St.,

Brooklyn, N. Y.

**THE MASON**

Reducing Valves

ARE THE WORLD'S STANDARD VALVES.

For automatically reducing and absolutely
maintaining an even steam or air pressure.

They are adapted for every need and guaranteed
to work perfectly in every instance.

WRITE FOR FULL INFORMATION AND
SPLENDID REFERENCES.

THE MASON REGULATOR CO. Boston, Mass., U.S.A.

Publishers' Page *INDIA RUBBER WORLD*

OFFICES:

No. 35 WEST 21st ST., NEW YORK

The Advertisements are of Interest.

THE publishers are in constant receipt of requests for specimen copies of THE INDIA RUBBER WORLD, from different parts of the United States and from other countries, from firms and individuals not known to be connected with the rubber trade. Frequently these requests are followed by orders for subscription to the paper. From time to time such requests are made in person, at our office, and it has been noticed that the inquirers, as often as not, turn first to the advertising pages, with a view to seeing who are prepared to sell or buy certain articles or goods. Presumably the advertising pages are of equal interest to those who send by mail for the paper. In these days, when rubber enters into such a great variety of uses, many of which are subsidiary to the chief features of numerous industries, there is a growing number of people who want to become better informed in regard to the rubber trade, and they begin by consulting the advertisements of the leaders in the trade.

An India-Rubber Library.

ULTIMATELY we hope to have, in THE INDIA RUBBER WORLD offices, the most comprehensive and complete collection of books, pamphlets, and papers relating to India rubber and Gutta percha that can be found in the world. Already a nucleus for such a collection exists which contains much matter of value, and it will afford us much pleasure to have our patrons make use of it. If any of them should be able to reciprocate by putting us in the way of making further additions to the collection, we should greatly appreciate it.

Wants it on His Desk all the Time.

A LETTER from a rubber factory superintendent, referring to "Crude Rubber and Compounding Ingredients," says: "It is a work that I want on my desk all the time, as it is surprising how often one wants to refer to it."

Send Us Your Catalogues.

THEY tell us what you are doing, and thereby enable us the more intelligently to conduct a paper which shall be of interest to the whole trade. They make the best reading for the trade journal editor, as they do for the man who is engaged in the business that you want to reach. We don't throw them away. There are important firms in the rubber trade that have not to-day a copy of their most elaborate catalogues. If THE INDIA RUBBER WORLD is put down on the distributing list for your trade publications, it may be that some day you will find our office the only place where a copy of the same can be referred to readily. And when you want to examine the catalogues of some other man or firm, we shall feel complimented if you will walk in to our office and say so.

Complete Your Files.

OUR supply of certain back numbers of THE INDIA RUBBER WORLD is now exhausted. We manage to obtain a few of such missing numbers from time to time, however, and can occasionally furnish them, but, of course, at an increased cost. It will not be

long before other issues will become scarce or unattainable, and those who have incomplete files will do well to order at once such missing numbers as are required to complete them.

From an Ohio Library.

THE INDIA RUBBER WORLD, 35 West 21st street, New York.
Dear Sir: -Very sorry you cannot send us the January number. We want it for binding and had hoped to keep the file complete. If you can suggest any place that we can get the missing number we would be greatly obliged.

August 17, 1906.

"Crude Rubber and Compounding Ingredients."

THIS book was designed originally as a work of reference for the use of factory superintendents, being the outgrowth of a collection of memoranda made by the author, made originally, for his own convenience. It occurred to him that the sort of information that one man interested in the rubber manufacture might find convenient to refer to in book form might prove equally desirable for other men in the industry; hence the publication of "Crude Rubber and Compounding Ingredients." The reception accorded to this book in rubber factories everywhere has been gratifying, but the demand has not been limited to rubber factories. Evidently there is a goodly number of persons who feel an interest in rubber and its manufacture, who have no real connection with the trade, and it is from such persons that must be attributed orders which come to us from booksellers and others in localities where there is no rubber industry. In several of the scientific bureaus of the United States government, in which more or less attention is devoted to India-rubber, "Crude Rubber and Compounding Ingredients" has come to be recognized as an authoritative book of reference. The same is true, to a lesser degree, of the many governmental offices abroad.

When To Send In Advertising "Copy."

OUR advertisers would confer a great favor upon the Publisher if, in sending in "copy" for changes, they would endeavor to do so as long as possible in advance of the date of publication—which is the last day of the month. We do

not desire to fix any arbitrary rule as to the latest date in the month on which advertising copy will be received, for reasons may develop, just before the printing of the paper, to make a change of advertisement desirable. At the same time, it will add to the convenience of the business office if those who intend sending in advertising "copy" will consider, not the **latest date** on which it can be handled, but the **earliest date** on which it can be furnished. Time should be allowed for sending proofs to the advertiser.

Bound Volumes.

A FEW bound volumes of THE INDIA RUBBER WORLD can still be supplied—pretty good looking volumes, we think, and we have heard some favorable things said about their contents. Order at once to insure securing copies.

**PRICE \$10.****PREPAID.**

FOR SALE.

THE PLANT OF
THE FALCON RUBBER CO.
NEW HAVEN, CONN.

Practically a new plant manufacturing Drug-gists' Sundries, Power Plant, Machinery, etc., was new and run about one year.

Can be purchased at a low figure to continue the same business, or it can be utilized for any kind of rubber manufacturing. Apply to

SHERMAN F. FOOTE, Receiver.
NEW HAVEN, CONN.

Mention The India Rubber World when you write.

GUTTA TABAN

Trade Mark

A substitute for RUBBER.

Something entirely new to the RUBBER trade, it will not get hard, remains elastic and flexible under all conditions, cures well and looks like RUBBER.

Made in three grades A. B. and C.

Write for prices.

Manufactured by
C. M. CUBBERLEY,
TRENTON, N. J.

Mention The India Rubber World when you write.

TEXTILE MACHINE WORKS,

READING, PA.

Manufacturers of

TUBING MACHINES.

Machinery for

Insulating Electrical Wires.

Calendering Machines,

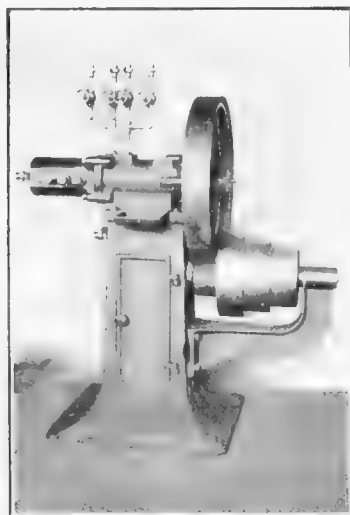
Braiding Machinery,

and

Special Machinery for Rubber and Allied Industries.

WRITE FOR ESTIMATE.

Mention The India Rubber World when you write.



Small Advertisement Department.

SITUATIONS OPEN.

TIRE REPAIRMAN—Experienced, on Automobile Outer Casings and inner Tubes. Steady work. Wages \$15. Apply New York Broadway Rubber Tire Co., 1186 Bedford Ave., Brooklyn, N. Y. [137]

WANTED.—Competent man to take charge of Belt Department for large Mechanical Rubber factory of national reputation in the middle west. Good salary to begin and excellent future prospects. Must state experience and come well recommended. Address BELL, care of THE INDIA RUBBER WORLD. [138]

WANTED—A man who understands operation of a three roll friction calender, and general mill work. Steady position to a strictly sober man who understands the work. Give reference, experience and salary expected. Address CALENDER, care of THE INDIA RUBBER WORLD. [147]

CHEMIST—Wanted a Chemist experienced in making good rubber substitutes. Applicant should state where he has been employed and send samples of the substitutes he can make. He should also state what salary he wants. Address SUEB MAKER, care of THE INDIA RUBBER WORLD. [150]

FOR SALE.

ONE CALENDER FOR SALE, Three rolls 40", 18" diameter; in first-class order. Address B. W. B., care of THE INDIA RUBBER WORLD. [144]

THE SQUEEZIT (A SMOKERS' ARTICLE)

A big money maker. Patent and plant for sale. Address by mail, G. W. WILLIAMS, No. 12 Chambers street, New York [142]

FOR SALE—ONE 26×60 HARRIS CORLISS ENGINE with new Knowles Pump and Condensor, one 24×46 Wright Engine, three smaller Engines, all guaranteed in best condition. Three Burrstone Mills and the complete Machinery of a Coldstorage and Ice Plant. One 18×48 Combination Rubber Calender, and one 14×38 Stock and Friction Calender. Several 14 and 15×36 Mills, one 15×36 Cracker or Washer, several smaller Grinders, one 20×72 Birmingham Grinder, one large 10 ft. Buffalo Forge Fan, one 6 ft. by 25 ft. Devulcanizer, complete with tracks, cars, turntables and piping. One 3 ft.×12 ft. Devulcanizer, two Double Geared Refiners, four 20×20 Presses, one two opening Power Press, two Cutting Presses, a large lot of extra 15×36 and 14×40 Mill Rolls, about fifty tons of all sizes of Shafting, odd gears, bearings, etc. About ten tons of good Piping and Valves. All this machinery in the best of condition, practically as good as new. Two complete Rubber Mills, one in Trenton, N. J. and the other in Boston, Mass. Come see me. Philip McGrory, Trenton, N. J. [148]

FOR SALE—A LARGE RUBBER MILL in the East near Boston, Mass. The owner wants to sell it as he is not in the Rubber Manufacturing business. The factory cost \$150,000. Will sell the same for \$35,000, of which \$20,000 can remain on first mortgage. This factory is equipped for the manufacture of Clothing, Rubber Boots and Shoes, Tennis Shoes, Hose, Packing and Belting, and Hard Rubber Goods, with the latest up-to-date machinery. The property consists of three acres of ground. Building, 60,000 sq. ft. of floor space. Within 20 minutes ride by trolley to South Station, Boston Mass. Railroad Passenger Station, opposite office. Equipped with fire plugs, and sprinkling system all through factory and it is in the best of condition. Address "RUBBER FACTORY," care of THE INDIA RUBBER WORLD. [149]

BUSINESS PROPOSITION.

WANTED—By a large European importing house in crude rubber, American connections. Address IMMEDIATE, care of THE INDIA RUBBER WORLD. [136]

CALENDER WANTED.

WANTED—One three roll 60" calender, 20" or 22" diameter; must be in first-class order. State very lowest price for spot cash. Address ROLL, care of THE INDIA RUBBER WORLD. [143]

WANT MACHINERY.

Second hand Calender, Mill, Washer and Tube Machine. Must be in good condition. State full particulars and price. Address J. M., care of THE INDIA RUBBER WORLD. [146]

SITUATIONS WANTED.

SUPERINTENDENT. Correspondence solicited by a Rubber Superintendent of twenty years' experience. Qualified for consultation on factory methods and expert chemical work. Available for position of Superintendent of a large Mechanical Goods factory. Address L. K. J., care of THE INDIA RUBBER WORLD. [139]

SALESMAN,—Competent Salesman with fifteen years' successful experience finding a market for general line of goods for a large factory. Will furnish first-class references. Have traveled all states and will guarantee results to factory having an opening for a first-class Salesman. Address L. J. W., care of THE INDIA RUBBER WORLD. [140]

FOREMAN,—Wanted position as Foreman in moulded goods, lathe, solid tire or roll departments. Have had years of experience, and can furnish the very best of references. Address F. H. B., care of THE INDIA RUBBER WORLD. [141]

MOULD MAKER,—A young man of thirty-three years, well versed in the making of moulds, both for hard and soft rubber, desires position. He has had ten years' experience in some of the largest rubber works in Germany and is especially competent in making and engraving comb moulds. Address D. G., care of THE INDIA RUBBER WORLD. [145]

SALESMAN OR PUBLICITY MAN,—A clean cut absolutely reliable young man 33 years of age, with long and successful experience as Salesman and Advertising Man, practical knowledge of printing, desires to form connection with large rubber company, as salesman or general publicity man. Opening must offer permanency and possibilities of a high order to the man who makes good. Address JAMAICA, care of THE INDIA RUBBER WORLD. [151]

SUPERINTENDENT OR FOREMAN,—Position wanted in a Mechanical Goods Factory or a Tire Repair Shop as Superintendent or Foreman by an experienced man. Address C. B. A., care of THE INDIA RUBBER WORLD. [152]

MANUFACTURERS.

DRAUGHTSMEN,—Mechanical, Electrical, Structural, Architectural—who can do first work on the board are at a premium. In a recent issue of "OPPORTUNITIES," our monthly publication, we listed 104 positions for draughtsmen at salaries of \$900 to \$2500. There are at least three times that number listed to-day at our twelve offices. Sample copy of "OPPORTUNITIES" is free for the asking. It may pave the way for larger success. Write us to-day. HARGOODS, 305 Broadway, New York. [124]

FOR SALE—Factory Rubber Waste from Rubber Cement; cleaned at a low price; sample sent free. UNITED STATES WASTE RUBBER CO., No. 487 North Warren Avenue, Brockton, Mass.

GRINDERS. Two 15×36 chilled roll Birmingham Mills; two 14×40 chilled roll Birmingham Mills; one 5'×11' Vulcanizer or Devulcanizer, hinged door and bolts tested 150. W. C. COLEMAN CO., Rochelle Park, New Jersey,

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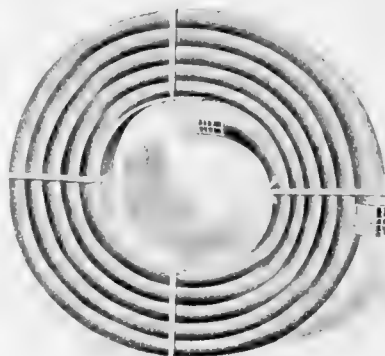
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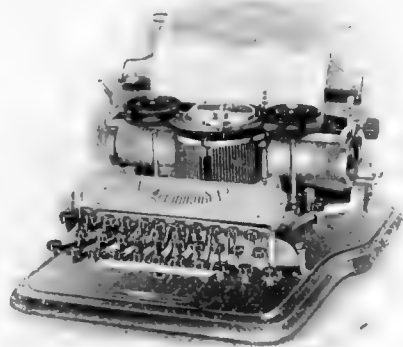
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Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co., Canadian Rubber Co. of Montreal.
Electric Hose & Rubber Co., Wilmington, Del.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.
National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Hose Core.

Alderfer Crute Co., Sharon Center, Ohio

Hose Couplings and Fittings.

Boston Woven Hose & Rubber Co., Canadian Rubber Co. of Montreal.
The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.

Hose Linings.

Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co., Empire Rubber Mfg. Co., Trenton, N. J.
Eureka Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Boston.

Hose—Protected.

Boston Belting Co., Boston-New York.
Electric Hose & Rubber Co., Wilmington, Del.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City

Hose Racks and Reels.

Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.
Wirt & Knox Mfg. Co., Philadelphia.

Hose—Rubber Lined.

COTTON AND LINEN.

Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co., Gutta Percha & Rubber Mfg. Co., N. Y.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Empire Rubber Mfg. Co., Trenton, N. J.
Eureka Fire Hose Co., New York.
Eureka Rubber Mfg. Co. of Trenton.
Fabric Fire Hose Co., New York.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston.
Jos. Stokes Rubber Co., Trenton, N. J.
Voorhees Rubber Mfg. Co., Jersey City

Hose—Submarine.

Boston Belting Co., Boston-New York.
Electric Hose & Rubber Co., Wilmington, Del.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston.
A. Schrader's Son, Inc., New York.

"Jenkins '96" Packing.

Jenkins Bros., New York.

Lawn Sprinklers.

Boston Woven Hose & Rubber Co., Canadian Rubber Co. of Montreal.

Mallets (Rubber).

Boston Belting Co., Boston-New York.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.
National India Rubber Co., Bristol, R. I.
Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Boston-New York.

Mould Work.

[See Mechanical Rubber Goods.]

Davidson Rubber Co., Boston.
Daval Rubber Co., Providence, R. I.
Faultless Rubber Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.
Hardman Rubber Co., Belleville, N. J.
Hodgman Rubber Co., New York.
La Crosse (Wis.) Rubber Mills Co., Mattson Rubber Co., New York.
Mitzel Rubber Co., Akron, O.
Plymouth Rubber Co., Stoughton, Mass.
Tyer Rubber Co., Andover, Mass.

"Nubian" Packing.

Voorhees Rubber Mfg. Co., Jersey City

Oil Well Supplies.

Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co., B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
Lake Shore Rubber Co., Erie, Pa.
N. J. Car Spring & Rubber Co., Jersey City.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-Pittsburgh.
Voorhees Rubber Mfg. Co., Jersey City

Paper Machine Rollers.

Boston Belting Co., Boston-New York.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Peerless Rubber Mfg. Co., New York.
Voorhees Rubber Mfg. Co., Jersey City

Plumbers' Supplies.

Canadian Rubber Co. of Montreal.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.
Republic Rubber Co., Youngstown, O.

Pump Valves.

[See Mechanical Rubber Goods]

The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.
Jenkins Bros., New York.
Revere Rubber Co., Boston, Mass.

Rollers—Rubber Covered.

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Empire Rubber Mfg. Co., Trenton, N. J.
Eureka Rubber Mfg. Co. of Trenton.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
Mechanical Rubber Co., Chicago.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Plymouth Rubber Co., Stoughton, Mass.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.

Sewing Machine Rubbers.

B. F. Goodrich Co., Akron, O.

Springs—Rubber.

Boston Belting Co., Boston-New York.
Canadian Rubber Co. of Montreal.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.
Hardman Rubber Co., Belleville, N. J.
National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City.
Peerless Rubber Mfg. Co., New York.
Plymouth Rubber Co., Stoughton, Mass.
Republic Rubber Co., Youngstown, Ohio.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Stair Treads.

Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co., Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Empire Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Thread.

B. F. Goodrich Co., Akron, O.
Mechanical Fabric Co., Providence, R. I.
Revere Rubber Co., Boston.

Tiling.

Anchor Tile Co., Trenton, N. J.
Canadian Rubber Co. of Montreal, Ltd.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.
N. J. Car Spring & Rubber Co., Jersey City.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, Ohio.
Voorhees Rubber Mfg. Co., Jersey City.

Tubing.

[See Mechanical Rubber Goods]

American Hard Rubber Co., New York.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence, R. I.
The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.
Hardman Rubber Co., Belleville, N. J.
Plymouth Rubber Co., Stoughton, Mass.
Tyer Rubber Co., Andover, Mass.

Valve Balls.

Boston Belting Co., Boston.
Cleveland Rubber Co., Cleveland, O.
B. F. Goodrich Co., Akron, O.
Manhattan Rubber Mfg. Co., New York.
Mechanical Rubber Co., Chicago.
National India Rubber Co., Bristol, R. I.

RUBBER BUYERS' DIRECTORY—CONTINUED.

Valve Balls.—Continued.

New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston.

Valve Discs.

American Hard Rubber Co., New York
Boston Belting Co., Boston-New York
B. F. Goodrich Co., Akron, O.
Peerless Rubber Mfg. Co., New York
Republic Rubber Co., Youngstown, O.

Valves.

[See Mechanical Rubber Goods]

The Gutta Percha & Rubber Mfg. Co.,
of Toronto, Ltd.
Jenkins Bros., New York-Chicago.

Vulcanite Emery Wheels.

Manhattan Rubber Mfg. Co., Passaic,
N. J.
New York Belting & Packing Co. Ltd.,
New York.

Wringer Rolls.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co.,
of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
Republic Rubber Co., Youngstown, O.

DRUGGISTS' AND
STATIONERS'
SUNDRIES

Atomizers.

Bandages.

Bulbs.

Syringes.

Water Bottles.

Druggists' Sundries—General.

American Hard Rubber Co., New York.
C. J. Bailey & Co., Boston.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
Est. of Jos. Bacharach, Brooklyn, N. Y.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Hardman Rubber Co., Belleville, N. J.
Hodgman Rubber Co., New York
Mittell Rubber Co., Akron, O.
National India Rubber Co., Bristol, R. I.
North British Rubber Co., Ltd., Edin-
burgh.
Pirelli & Co., Milan, Italy.
Seamless Rubber Co., New Haven, Ct.
Tyler Rubber Co., Andover, Mass.

Balloons.

King & Leatherow, Newark, N. J.

Balls, Dolls and Toys.

New York Rubber Co., New York.

Combs.

American Hard Rubber Co., New York

Elastic Bands.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, Ohio.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York-Boston.
Tyler Rubber Co., Andover, Mass.

Erasive Rubbers.

Davidson Rubber Co., Boston.
B. F. Goodrich Co., Akron, O.
Hardman Rubber Co., Belleville, N. J.
Mattson Rubber Co., New York.

Finger Cots.

Cleveland Rubber Co., Cleveland, Ohio
Faultless Rubber Mfg. Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Pure Gum Specialty Co., Barborton, O.

Gloves.

Canadian Rubber Co. of Montreal.
Davol Rubber Co., Providence, R. I.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.

Gloves.—Continued.

King & Leatherow, Newark, N. J.
National India Rubber Co., Bristol, R. I.
Pure Gum Specialty Co., Barborton, O.

Hard Rubber Goods.

American Hard Rubber Co., New York.
Canadian Rubber Co. of Montreal.
Davol Rubber Co., Providence, R. I.
Hardman Rubber Co., Belleville, N. J.
Stokes Rubber Co., Joseph, Trenton, N. J.
Tyler Rubber Co., Andover, Mass.

Hospital Sheetings.

Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.
Plymouth Rubber Co., Stoughton, Mass.
Tyler Rubber Co., Andover, Mass.

Ice Bags and Ice Caps.

Est. of Jos. Bacharach, Brooklyn, N. Y.
Cleveland Rubber Co., Cleveland, Ohio.
Faultless Rubber Co., Akron, Ohio.
B. F. Goodrich Co., Akron, O.
Hardman Rubber Co., Belleville, N. J.
National India Rubber Co., Bristol, R. I.
Pure Gum Specialty Co., Barborton, O.
Tyler Rubber Co., Andover, Mass.

Life Preservers.

Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Nipples.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Pure Gum Specialty Co., Barborton, O.
Tyler Rubber Co., Andover, Mass.

Seamless Rubber Goods.

H. A. Kaysan, Cassel, Germany.

Shower Bath Sprinklers.

A. Schrader's Son, Inc., New York.

Sponges (Rubber).

Faultless Rubber Co., Ashland, Ohio.

Stationers' Sundries.

American Hard Rubber Co., New York
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Cincinnati Rubber Mfg. Co., Cincinnati,
O.

Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hardman Rubber Co., Belleville, N. J.
Hodgman Rubber Co., New York-Boston
Seamless Rubber Co., New Haven, Ct.
Tyler Rubber Co., Andover, Mass.

Stopples (Rubber).

Cleveland Rubber Co., Cleveland, O.
Davol Rubber Co., Providence, R. I.
Hodgman Rubber Co., New York.
Manhattan Rubber Mfg. Co., New York
National India Rubber Co., Bristol, R. I.
New York Belting & Packing Co., N. Y.
A. Schrader's Son, Inc., New York.
Tyler Rubber Co., Andover, Mass.

Throat Bags.

Cleveland Rubber Co., Cleveland, O.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
National India Rubber Co., Bristol, R. I.
Tyler Rubber Co., Andover, Mass.

Tobacco Pouches.

Canadian Rubber Co. of Montreal.
Faultless Rubber Co., Akron, Ohio.
B. F. Goodrich Co., Akron, O.
Pure Gum Specialty Co., Barborton, O.
Tyler Rubber Co., Andover, Mass.

MACKINTOSHED
AND SURFACE
GOODS

Air Goods (Rubber).

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.

Air Goods (Rubber).—Continued.

New York Rubber Co., New York.
National India Rubber Co., Providence.
Tyler Rubber Co., Andover, Mass.

Air Mattresses.

Canadian Rubber Co. of Montreal.
Mechanical Fabric Co., Providence, R. I.
National India Rubber Co., Bristol, R. I.

Barbers' Bibs.

Cleveland Rubber Co., Cleveland, Ohio.
Davol Rubber Co., Providence, R. I.
Tyler Rubber Co., Andover, Mass.

Bathing Caps.

Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.

Bellows Cloths.

Boston Rubber Co., Boston.
Cleveland Rubber Co., Cleveland, O.
Hodgman Rubber Co., New York.
La Crosse (Wis.) Rubber Mills Co.

Calendering.

La Crosse (Wis.) Rubber Mills Co.
Plymouth Rubber Co., Stoughton, Mass.

Carriage Ducks and Drills.

Cleveland Rubber Co., Cleveland, O.
Empire Rubber Mfg. Co., Trenton, N. J.
Kureka Rubber Mfg. Co. of Trenton.
Gutta Percha & Rubber Mfg. Co., To-
ronto.
National India Rubber Co., Bristol, R. I.

Clothing.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Granby Rubber Co., Granby, Quebec.
Gutta Percha & Rubber Mfg. Co. of To-
ronto.
Hodgman Rubber Co., New York.
La Crosse (Wis.) Rubber Mills Co.
National India Rubber Co., Bristol, R. I.
North British Rubber Co., Ltd., Edin-
burgh.
Pirelli & Co., Milan, Italy.

Cravenette.

Cravenette Co., Ltd.

Diving Apparatus.

A. Schrader's Son, Inc., New York.

Diving Dresses.

Hodgman Rubber Co., New York.

Dress Shields.

Mattson Rubber Co., New York.

Horse Covers.

Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Leggings.

Cleveland Rubber Co., Cleveland, O.
Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Mackintoshes.

[See Clothing.]

Proofing.

Canadian Rubber Co. of Montreal.
La Crosse (Wis.) Rubber Mills Co.
Plymouth Rubber Co., Stoughton, Mass.

Rain Coats.

Cravenette Co., Ltd.

Rubber Coated Cloths.

Mechanical Fabric Co., Providence, R. I.

RUBBER
FOOTWEAR

Boots and Shoes.

American Rubber Co., Boston.
Boston Rubber Shoe Co., Boston.
Canadian Rubber Co. of Montreal
L. Candee & Co., New Haven, Ct.
B. F. Goodrich Co., Akron, O.
Granby Rubber Co., Granby, Quebec.
Gutta Percha & Rubber Mfg. Co. of
Toronto.
Hood Rubber Co., Boston.
Lycorning Rubber Co., Williamsport, Pa.
Meyer Rubber Co., New York.
National India Rubber Co., Boston.
North British Rubber Co., Ltd., Edin-
burgh.
United States Rubber Co., New York
Wales-Goodyear Rubber Co., Boston.
Woonsocket Rubber Co., Providence.

Heels and Soles.

Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Continental Caoutchouc & Gutta-percha
Co., Hanover.
Grieb Rubber Co., Trenton, N. J.
The Gutta Percha & Rubber Mfg. Co.,
of Toronto, Ltd.
Plymouth Rubber Co., Stoughton, Mass.

Tennis Shoes.

American Rubber Co., Boston.
Boston Rubber Shoe Co., Boston.
Granby Rubber Co., Granby, Quebec.
The Gutta Percha & Rubber Mfg. Co.,
of Toronto, Ltd.
La Crosse Rubber Mills Co., La Crosse,
Wis.
National India Rubber Co., Providence
United States Rubber Co., New York.

Wading Pants.

Canadian Rubber Co. of Montreal.
Hodgman Rubber Co., New York.

DENTAL AND
STAMP RUBBER

Dental Gum.

American Hard Rubber Co., New York.
Cleveland Rubber Co., Cleveland, O.
Tyler Rubber Co., Andover, Mass.

Rubber Dam.

Cleveland Rubber Co., Cleveland, O.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
Tyler Rubber Co., Andover, Mass.

Stamp Gum.

B. F. Goodrich Co., Akron, O.
Mattson Rubber Co., New York.
Mechanical Rubber Co., Chicago, Ill.
N. J. Car Spring & Rubber Co., Jersey
City, N. J.
New York Belting & Packing Co., N. Y.

ELECTRICAL

Electrical Supplies.

American Hard Rubber Co., New York.
Lake Shore Rubber Co., Erie, Pa.
Joseph Stokes Rubber Co., Trenton, N. J.
Massachusetts Chemical Co., Boston.
Tyler Rubber Co., Andover, Mass.

Friction Tape.

Boston Belting Co., Boston.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
B. F. Goodrich Rubber Co., Akron, O.
Home Rubber Co., Trenton, N. J.
Massachusetts Chemical Co., Boston.
Mechanical Rubber Co., Chicago.
National India Rubber Co., Bristol, R. I.
Revere Rubber Co., Boston-New York.

Hard Rubber Goods.

American Hard Rubber Co., New York.
Canadian Rubber Co. of Montreal.
Joseph Stokes Rubber Co., Trenton, N. J.

Insulating Compounds.

Canadian Rubber Co. of Montreal.
Gutta-Percha & Rubber Mfg. Co., To-
ronto.
Massachusetts Chemical Co., Boston.

Insulated Wire and Cables.

National India Rubber Co., Providence

Splicing Compound.

Home Rubber Co., Trenton, N. J.

SPORTING
GOODS

Foot Balls.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Faultless Rubber Co., Akron, Ohio.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York
National India Rubber Co., Bristol, R. I.

Golf Balls.

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
Davidson Rubber Co., Boston.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co.,
of Toronto, Ltd.

RUBBER BUYERS' DIRECTORY—CONTINUED.

Sporting Goods.

Canadian Rubber Co. of Montreal.
Faultless Rubber Co., Akron, Ohio.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
Tyler Rubber Co., Andover, Mass.

Striking Bags.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, Ohio.
Faultless Rubber Co., Akron, Ohio.
B. F. Goodrich Co., Akron, O.
Pure Gum Specialty Co., Barborton, O.

Submarine Outfits.

Hodgman Rubber Co., New York.

MISCELLANEOUS

Boiler Specialist.

H. W. Jones, New York.

Carriage Washer.

Ideal Carriage Washer Co.

Cement (Rubber).

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
B. F. Goodrich Co., Akron, O.
Hadley Cement Co., Lynn, Mass.

Cement (Rubber).—Continued

Manhattan Rubber Mfg. Co., New York
N. J. Car Spring & Rubber Co., Jersey
City, N. J.
New York Belting & Packing Co., N. Y.

Chemical Analyses.

Durand Woodman, Ph. D., New York.
H. L. Terry, Manchester, England.

Chemists.

Stephen P. Sharples, Boston, Mass.
Durand Woodman, Ph. D., New York.

Engraver.

P. C. Smith, Boston, Mass.

Rubber Journals.

Gummi Zeitung, Dresden, Germany.

Rubber Planting.

Ohio Rubber Culture Co., Canton, Ohio.

Rubber Tree Seeds.

J. P. William & Bros., Heneratgodu,
Ceylon.

MACHINERY AND SUPPLIES FOR RUBBER MILLS.

**RUBBER
MACHINERY**

Acid Tanks.

Birmingham Iron Foundry, Derby, Ct.

Band Cutting Machine.

A. Adamson, Akron, O.
Alton Machine Co., New York.
Birmingham Iron Foundry, Derby, Ct.

Belt Folding Machines.

Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.

Belt Slitters.

Cloth Dryers.

Gearing.

Shafting.

Wrapping Machines.

Alton Machine Co., New York.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.

Belt Stretchers.

Alton Machine Co., New York.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.
Hoggson & Pettis Mfg. Co., New Haven.

Boilers.

William R. Thropp, Trenton, N. J.
John E. Thropp & Sons Co., Trenton,
N. J.

Braiders.

New England Butt Co., Providence, R. I.

Buckles.

The Weld Mfg. Co., Boston.

Cabling Machinery.

Alton Machine Co., New York.

Calenders.

Alton Machine Co., New York.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.
Textile-Finishing Machinery Co., Providence, R. I.

Castings.

A. Adamson, Akron, O.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.

Chucks (Lathe).

Hoggson & Pettis Mfg. Co., New Haven

Churns.

American Tool & Machine Co., Boston

Clutches.

Farrel Foundry & Mach. Co., Ansonia, Ct.

Crackers.

Alton Machine Co., New York.
Birmingham Iron Foundry, Derby, Ct.

Devulcanizers.

Alton Machine Co., New York.
Biggs Boiler Works Co., Akron, Ohio.
Birmingham Iron Foundry, Derby, Ct.
Edred W. Clark, Hartford, Ct.
William R. Thropp, Trenton, N. J.

Dies.

John J. Adams, Worcester, Mass.
Barbour Bros., Trenton, N. J.
T. J. Beaudry, Marlboro, Mass.
Brockton Die Co., Brockton, Mass.
J. W. Deewes, Philadelphia, Pa.

Dies.—Continued.

Hoggson & Pettis Mfg. Co., New Haven.
Independent Die Co., Brockton, Mass.
Joseph E. Knox & Co., Lynn, Mass.

Doubling Machines.

American Tool & Machine Co., Boston

Drying Apparatus.

American Process Co., New York.

Drying Machines.

Alton Machine Co., New York.
Joseph P. Devine, Buffalo, N. Y.
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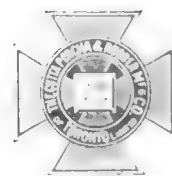
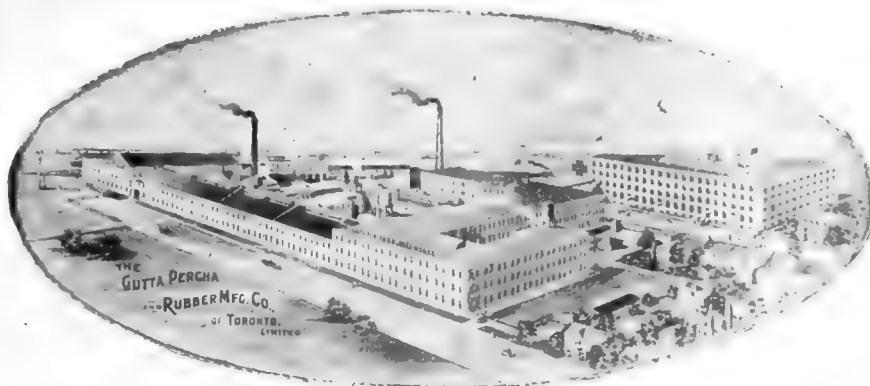
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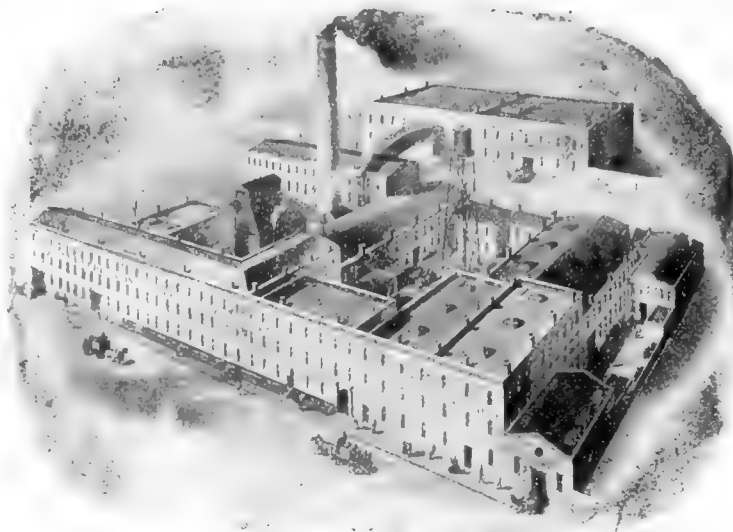
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